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(1) APPROVED AIR-ENTRAINING ADMIXTURES – (Physical Lab)
AASHTO - M154

The following list of air-entraining admixtures is approved for use in hydraulic cement concrete.

Addiment Inc.	AEC, LP1
Axim Concrete Technologies	Catexol AE 260
BASF Admixtures, Inc. (Formerly Master Builders)	MBVR Concentrated, MB AE 90, MB-VR Standard, Micro-Air, Pave-air
Chryso, Inc.	Chryso Air R2
The Euclid Chemical Company	AEA-92, Air Mix 200, Euco Air Mix, Airen V, Airen S, Eucon Air 30, Eucon Air 40, Eucon NVR
Fritz-Pak Corp.	Air Plus L
Great Eastern Technologies, L.L.C.	Setcon 6A
W. R. Grace & Company	DARAVAIR-M, DAREX AEA, DAREX II AEA, DARAVAIR AT60, DARAVAIR 1000, DARAVAIR AT30
Hunt Process Corp. - Southern	Air In (12 Solids), Air-In-XT
RussTech	RVR-15, RSA-10
Sika Corp	Sika AER, Sika AEA 14, Sika AEA-15, Sika Air

List No. 2

(2) APPROVED WATER REDUCING ADMIXTURES – (Physical Lab)**AASHTO-M194-TYPE A**

The following list of water reducing admixtures is approved for use in hydraulic cement concrete.

Addiment	BV3, BV6, VZ4, VZ4/W, BVF
Axim Concrete Technologies	Catexol 800N, Catexol 1000N, Catexol 2000NI, Catexol 800R, Catexol Superflux 2000 PC
Boremco Specialty Chemicals	Borem 100-HML
Chryso, Inc.	Fluid Optima 203, Plast 850, Fluid Optima 200, Plast 500, Fluid Premia 180, Fluid Premia 190
BASF Admixtures, (formerly Degussa Admixtures, Inc., formerly Master Builders)	Masterpave, Masterpave-N, Pozzolith 80, Pozzolith 82, Pozzolith 122-N, Pozzolith 133-N, Pozzolith 200-N, Pozzolith 220-N, Pozzolith 300-N, Pozzolith 322-N, Pozzolith 344-N, Pozzolith 960, Pozzolith 975, Polyheed, Polyheed 997, Polyheed-N, PS1232, PS1248, PS 1466, Glenium 3200 HES, Glenium 3030 NS, Glenium 3400NV, PolyHeed 1020, PolyHeed 1025
The Euclid Chemical Company	Eucon NW, Eucon LW, Eucon HW, Eucon LR, Eucon SP, Eucon 1 X-15, Eucon NR, Eucon SPC, Eucon SPJ, Eucon 37, WR-75, WR-89, WR-91, Redux N
Fritz-Pak Corp.	Supercizer 6L, FR-2L, Supercizer 7L, FR-1L FR-3L HE
Great Eastern Technologies, L.L.C.	Chemstrong A, Chemstrong SP, Polystrong
Hunt Process	HPS-R
RussTech, Inc.	LC-400, LC-400P, Finishease-NC, Superflo 440, Superflo 443, Superflo LC500, Superflo 2000RM
Sika Corp.	Plastiment NS, Plastocrete 161, Sikament 10 ESL, Sikament 86, Sikament 300, Sikament 2000, Sikament FF, Sikament MP, Sikament N, Viscocrete 5000, Viscocrete 6000, ViscoCrete 6100, Plastocrete 20, Sikament NL, Sika Viscocrete 4100, Sika Viscocrete 2100, Sikament 686
W. R. Grace & Company	WRDA with HYCOL, WRDA 35, WRDA 64, WRDA 79, WRDA 82, WRDA 86, DARACEM 19, DARACEM 50, DARACEM 55, DARACEM 65, DARACEM 100, DARACEM ML330, DARACEM ML500, MIRA 70, ADVA 170, ADVA Cast 500, ADVA Cast 530, ADVA Cast 540, MIRA 92

(3) APPROVED HIGH RANGE WATER REDUCING ADMIXTURES & RETARDERS - (Physical Lab)**AASHTO-M194-TYPE G**

The following list of high range water reducing and retarding admixtures is approved for use in hydraulic cement concrete.

Addiment	BVS
BASF Admixtures, Inc. (formerly Master Builders)	Rheobuild 716I
Boral Material Technologies, Inc.	Boral RD-1
The Euclid Chemical Company	Eucon 537, Plastol
Fritz-Pak Corp.	Delay Set Liquid, Supercizer 7L
W. R. Grace & Company	DARACEM-100

(4) WATER REDUCING AND RETARDING ADMIXTURES – (Physical Lab)**AASHTO-M194-TYPE D**

The following list of water reducing and retarding admixtures is approved for use in hydraulic cement concrete.

Addiment	BV3, VZ4, VZ4/W, HPR
Axim Concrete Technologies	Catexol 800R, Catexol 1000R
BASF Admixtures, Inc. (formerly Master Builders)	Delvo Stabilizer, Masterpave-RI, Polyheed RI, Pozzolith-80, Pozzolith-82, Pozzolith 100-XR, Pozzolith-200N, Pozzolith 122-R, Pozzolith 220N, Pozzolith 300-R, Pozzolith 961R
The Euclid Chemical Company	Eucon Retarder 75, Eucon Retarder 100, Eucon 537, Redux R, Eucon NR, Eucon LR, Eucon RD-1
Fritz-Pak Corp.	Delay Set Liquid, FR-1L
Great Eastern Technologies, L.L.C.	Chemstrong R
W. R. Grace & Company	Daratard 17, WRDA 35, WRDA 79, Recover
RussTech, Inc.	LC-400R, LC-400P, LC500
Sika Corp	Plastiment

(4.1) HIGH RANGE WATER REDUCER – (Physical Lab)**AASHTO-M-194-TYPE F**

The following list of high range water reducing admixtures is approved for use in hydraulic cement concrete.

Addiment	BVF, BV94, BV6
Axim Concrete Technologies	Catexol 1000 SPMN, Catexol Superflux 2000 PC
Boremco Specialty Chemicals	Borem 100-HML
Chryso, Inc.	Fluid Optima 203, Fluid Optima 200, Fluid Premia 180, Fluid Premia 190
BASF Admixtures, Inc. (formerly Degussa Admixtures, Inc. formerly Master Builders, Inc.)	Polyheed, Polyheed 997, Pozzolith 400N, Pozzolith 440N, Rheobuild 1000, Rheobuild 2000B, Rheobuild 2500, RS 1232, PS 1248, PS 1466, Glenium 3000 NS, Glenium 3200 HES, Glenium 3030 NS, Glenium 3400 NV, PolyHeed 1020, PolyHeed 1025
Euclid Chemical Co.	Eucon 37, Eucon SP, Eucon X-15, Eucon RD1, Eucon SPC, Eucon SPJ
Fritz-Pak Corp	Supercizer 7, Supercizer 6L, Supercizer 7L
Great Eastern Technologies, L.L.C.	Chemstrong SP, Polystrong
RussTech, Inc.	Superflo 443, Superflo 440, Superflo 2000RM
Sika Corp.	Sikament 300, Sikament N, Sikament 10ESL, Sikament FF, Sikament 86, Sikament 2000, Sikament MP, ViscoCrete 5000, ViscoCrete 6000 ViscoCrete 6100, Sikament NL, Sika Viscocrete 4100, Sika Viscocrete 2100, Sikament 686
W. R. Grace & Company	ADVA 100, ADVAFlow, Adva Cast, DARACEM 19, DARACEM ML330, DARACEM ML500, MIRA 70, ADVA 140, ADVA 170, ADVA Cast 500, ADVA Cast 530, ADVA Cast 540, MIRA 92

(4.2) ACCELERATING ADMIXTURES – (Physical Lab)**AASHTO-M-194-TYPE C**

<p>The following list of high range water reducing admixtures is approved for use in hydraulic cement concrete.</p>	
Axiam Italcementi Group	Catexol 2000 R.H.E.
Great Eastern Technologies, LLC	Chemstrong CF
BASF Admixtures, Inc. (formerly Master Builders, Inc.)	Pozzutec 20 (Dosage rate not to exceed 20 fl. oz./100 lbs. of cement) Pozzolith NC 534 (Dosage rate not to exceed 27 fl. oz./100 lbs. of cement.)
Russ Tech, Inc.	Russ Tech RCI (Dosage rate not to exceed 32 fl. oz/100 lbs. of cement)
Sika Corp.	Sika Rapid -1 (Dosage rate not to exceed 20 fl. oz./100 lbs. of cement) Plastocrete 161 FL (Dosage rate not to exceed 24 fl. oz./100 lbs. of cement) Sika Set NC (Dosage rate not to exceed 30 fl. oz./100 lbs. of cement)
W. R. Grace & Company	Lubricon NCA (Dosage rate not to exceed 27 fl. oz./100 lbs. of cement) Polarsel (Dosage rate not to exceed 12 fl. oz./100 lbs. of cement)

(4.3) **CORROSION INHIBITING ADMIXTURES – (Physical Lab)**

The following list of corrosion inhibiting admixtures is approved for use in hydraulic cement concrete.	
Darex Corrosion Inhibiting Admixture DCI, DCI-S	Grace Construction Products Cambridge, MA
Catexol CN-CI	Axim Italcementi Group Middlebranch, OH
Chemstrong CI	Great Eastern Technologies, L.L.C. Lakewood, NJ
Rheocrete CNI	BASF Admixtures, Inc. (formerly Degussa Building Systems and Master Builders, Inc.)
Russ Tech RCI	Russ Tech, Inc. Louisville, KY
Sika CNI Corrosion Inhibiting Admixture	Sika Corp. Lyndhurst, NJ

List No. 5

RESULTS OF QUALITY TESTS ON

(5) COMMERCIALLY PRODUCED COARSE AGGREGATES – (Physical Lab)

Producer and Location	Date Test Performed	Classification *See Legend	SSD Specific Gravity	Absorption	L.A. Abrasion Loss			Dry Bulk Specific Gravity
					A	B	C	
ACCO Stone Corp								
2059 Blacksburg, VA	1/06	Ls. & Do	2.81	0.7		15.5		2.79
Adams Stone Co.								
1003 Burdine, KY		Ls.	2.71	0.4		20.9	24.5	
Aggregate Industries								
7060 LaPlata MD		Rv. Gvl.	2.57	1.5		34.1		2.53
Aggregate Industries								
8086 Millville, WV		Ls.	2.85	0.4		18.3		2.84
Amelia Sand Co.								
4057 Amelia, VA			2.63	0.8		30.3		2.61
Appomattox Lime Co.								
3001 Appomattox, VA		Do. Ma.	2.79	0.1	33.8	28.6		2.77
Ararat Rock Products								
2003 Mt. Airy, NC	1/06	Gn.	2.80	0.4		31.0		2.78
Arundel								
5016 Havre de Grace, MD		Tr.	2.81	0.5		16.1		2.79
Austinville Limestone								
1087 Austinville, VA	3/04	Ls.	2.83	0.4		18.9		2.83
Aylett Sand & Gravel								
6018 Aylett, VA		Qz.	2.65	0.4	40.8	41.7	39.3	
6018 Aylett, VA-8P		Gvl.	2.62	0.5			41.4	2.61
Barger, C. W. & Sons								
8004 Lexington, VA		Ls.	2.73	0.7		20.7		2.72
Barrick, S. W.								
Woodsboro, MD		Ls.	2.71	0.4		24.8		2.70
Beckley Stone Co.								
1085 Beckley, W VA	3/04	Ss	2.57	1.8	36.0	33.7		2.52
Belmont Quarry								
8003 Staunton, VA		Ls. & Do.	2.70	0.7		26.7		2.68

List No. 5 (cont.)

COARSE AGGREGATES (Cont.)

Producer and Location	Date Test Performed	Classification *See Legend	SSD Specific Gravity	Absorption	L.A. Abrasion Loss			Dry Bulk Specific Gravity
					A	B	C	
Benchmark Carolina Aggregate								
Quarry, #67, Princeton, NC			2.68	0.2		16.1		
Blue Stone Quarry								
1099 Princeton, WV	3/04	Ls.	2.70	0.6	18.7	17.1		2.68
Boxley Aggregates								
2004 Blue Ridge, VA	1/06	Ls.& Do.	2.78	0.4		15.8		2.77
2009 Fieldale, VA	1/06	Gn.	2.88	0.4		24.9		2.87
3003 Lawyers Rd, Lynchburg, VA		Ar.Ma.	2.75	0.2	25.6	23.1		2.72
8082 Lewisburg, WV		L.S.	2.71	0.5		17.6		2.69
8025 Lowmoor, VA		Ls. & Do.	2.71	0.3		19.7		2.70
8069 Millpoint Hillsboro, WV		L.S.	2.72	0.3		18.3		2.71
3030 Mt. Athos Plant Concord, VA		Gs.	3.06	0.2	18.4	17.2		2.99
3034 Piney River, VA		Ap	2.74	0.3	17.0	16.0		2.73
BMC Rock Inc.								
3055 Charlotte Courthouse, VA		Gn.	2.71	0.5	20.41	18.64		2.69
Brett Aggregates, Inc.								
8059 Grottoes, VA		Rv.Gvl.	2.59	1.5		36.1		2.55
5035 Carson, VA			2.60	0.7		33.8		2.58
4100 Charles City, VA			2.60	0.9		36.3		2.57
4059 Hill Carter-Doswell, VA			2.62	0.6		43.7		2.61
8076 Stuarts Draft, VA		Rv.Gvl.	2.52	2.1	20.1	44.6		2.47
Woodway Stone Co. Woodway, VA		Ls.	2.72	0.3	24.5			
Cardinal Stone Co.								
1009 Galax, VA	3/04	Bi.	2.65	1.5	21.8	22.8		2.61
1047 Atkins, VA	3/04	L.S.	2.75	0.5	19.2	19.2		2.74
1097 Smithport, NC		Gr.	3.00	0.4	48.3			
Cedar Mountain Stone Corporation								
7001 Louisa, VA		Gr.	2.68	0.5		39.0		
7031 Mitchell, VA		Db. (Tr.)	3.03	0.6		19.9		3.01
Mitchell, VA #8	6/05	Db. (Tr.)	3.02	0.8			26.2	2.99
Chantilly Crushed Stone Co.								
7004 Chantilly, VA	1/06	Db. (Tr.)	2.99	0.6		14.1		2.98
Chantilly, VA #8P	12/05	Db. (Tr.)	2.96	1.0			19.4	2.93

List No. 5 (cont.)

COARSE AGGREGATES (Cont.)

Producer and Location	Date Test Performed	Classification *See Legend	SSD Specific Gravity	Absorption	L.A. Abrasion Loss			Dry Bulk Specific Gravity
					A	B	C	
Chickahominy Sand & Gravel								
4050 Charles City, VA		Qz.Gvl.	2.60	0.8				
Custom Sand and Gravel								
4009 Charles City, VA		Qz.Gvl.	2.59	0.9		40.5		2.57
Dillon, E. & Co.								
1064 Swords Creek, VA	3/04	Do.	2.84	0.2	17.4	17.1		2.84
D. M Conner								
8084 Stuarts Draft, VA		Rv.Gvl.	2.58	1.2		43.8		2.54
Elkhorn Stone Co.								
1063 Elkhorn City, KY	3/04	Ls.	2.70	0.4	21.2	20.1		2.69
Burdine, KY	3/04	Ls.	2.70	0.5	24.0	22.6		2.69
Elmo Greer Inc.								
1029 Gibson Station, VA	3/04	Ls.	2.71	0.3	22.9	22.0		2.70
Ennstone								
6038 Kenson, VA	10/05	Gvl.	2.62	0.7	35.8		38.0	2.60
6039 Morie Plant		Gvl.	2.63	0.4	37.2	38.1	39.0	2.62
Fairfax Sand & Crushed Stone								
8077 Sherr, WV		Ls.	2.72	0.3		22.4		2.71
F & M Construction Co.								
1011 Carroll County, VA	1/06	Qzi.	2.67	1.3	15.9	15.5		2.64
Frazier Quarry								
8010 Harrisonburg, VA (Waterman)		Ls.	2.71	0.3		21.5		2.71
8062 North Plant Rte.765		Ls.	2.72	0.3		20.1		2.71
8083 Thorndale, VA			2.72	0.4		18.2		
The General Crushed Stone Co.								
Morgantown, PA			2.76	0.3		15.0		
Genstar Products								
Frederick, MD		Ls.	2.73	0.3		20.0		
Texas, MD		Ls.	2.82	0.4			31.4	
Global Stone								
8005 Strasburg, VA		L.S.	2.71	0.4		21.1		2.70
8028 Winchester, VA		L.S.	2.73	0.3		19.6		2.72
O-N Materials (James River)								
2006 Buchanan, VA	1/06	L.s. & Do.	2.82	1.1		28.2		2.79
2008 Rocky Point, VA	1/06	L.S.	2.72	0.2		28.5		2.71

COARSE AGGREGATES (Cont.)

Producer and Location	Date Test Performed	Classification *See Legend	SSD Specific Gravity	Absorption	L.A. Abrasion Loss			Dry Bulk Specific Gravity
					A	B	C	
Holston River Quarry, Inc.								
Austinville, VA		Ls.	2.76		39.8			
2044 Dublin, VA	1/06	Ls.	2.75	0.7		15.7		2.73
Inwood Quarries,								
Inwood, W. VA		Ls.	2.71	0.2		22.6		2.71
Jesse Stone Co.								
1038 Woodway, VA	3/04	Ls.	2.71	0.6	21.6	21.6		2.69
Keystone Lime Co.								
Springs, PA			2.69	0.6		18.0		2.67
LaFarge								
Frederick, MD	10/05		2.71	0.3		20.7		2.70
LeSueur-Richmond Slate								
3032 Arvonia, VA		Sl.	2.76	0.3	20.3	19.6		2.78
Loudoun Quarry								
7011 Herndon, VA	1/06	Db.(Tr.)	2.99	0.6		19.8		2.98
Luck Stone Corp.								
7052 Bealton, VA		Db.	2.99	0.6		12.4		2.97
7003 Manassas, VA	7/05	Db. (TR.)	2.97	0.6		14.7		2.95
4002 Burkeville, VA		Am.Gn.& Gr	2.64	0.7		39.6	28.8	2.63
6014 Caroline, VA		Qz.	2.63	0.3		40.1	42.3	2.62
7007 Centreville, VA	6/05	Db.(Tr.)	2.85	0.8		13.4		2.82
8067 Elkton, VA		Ls.& Do.	2.80	0.3		17.8		2.79
7020 Goose Creek, VA	9/05	Db.(Gr.)	2.98	0.6		12.0		2.97
6034 King William, VA		Gr.	2.62	0.5			45.9	2.60
7010 Leesburg, VA	1/06	Db.(Tr.)	2.98	0.6		13.0		2.96
Leesburg, VA #8	1/06	Db.(Tr.)	2.95	0.9		14.2		2.93
7055 Louisa, VA		Gr.	2.68	0.5		35.0		2.67
4001 Manakin, VA		Gn.& Gr.	2.62	0.6	25.2	24.8	26.7	2.60
6042 Massaponax #57	1/06		2.67	1.1		31.5		2.64
6027 Mattaponi, VA	12/05	Qz.	2.62	0.5		35.5	42.3	2.60
Mattaponi, VA #8	12/05	Oz.	2.62	0.5			39.4	2.61
4045 Powhatan, VA		Am.Gn.& Mmp.Gr.	2.70	0.5		17.4		2.66
4011 Rockville, VA		Qzi.& Gn.(Mmp)	2.67	0.9		20.1		2.63
7043 Ruckersville, VA		Gn. & Gr.	2.79	0.5		27.4		2.77
7005 Shadwell, VA	6/05	Gs	2.87	0.4		13.5		2.86
Shadwell, VA #8	6/05	Gs	2.85	0.7		15.7		2.83
8071 Staunton, VA		Ls.	2.73	0.5		21.7		2.72
7006 Stevensburg, VA		Sis.	2.75	0.8		11.9		2.73

COARSE AGGREGATES (Cont.)

Producer and Location	Date Test Performed	Classification *See Legend	SSD Specific Gravity	Absorption	L.A. Abrasion Loss			Dry Bulk Specific Gravity
					A	B	C	
Lyalls Stone								
1080 Mouth of Wilson, VA	3/04	Gr.	2.72	0.4	24.0	25.4		2.71
Martin Marietta Aggregates								
4054 Anderson Creek Rockville, VA			2.71	0.6		19.0		2.69
4046 Warbro Road Chesterfield, VA		Am.Gn.& Gr	2.65	0.5		26.5		2.64
4008 Doswell, VA	11/05	Db.Am.Gn & Gr.	2.74	0.7		21.4		2.72
7017 Red Hill Plant North Garden, VA	7/05	Gr.	2.80	0.5		24.7		2.79
Red Hill Plant North Garden, VA #8	7/05	Gr.	2.77	0.7			26.5	2.75
6031 Spotsylvania, VA		Gr.	2.68	0.6		12.6	31.2	2.67
8064 Fort Spring, W.VA		Ly. Sh & Ls	2.71	0.6		18.4		2.69
8093 Williamsport, MD	3/06		2.72	0.2		25.1		2.71
Maryland Rock								
7051 Nanjemoy, MD (Goosebay)		Rv. Gvl.	2.63	1.5		31.8		2.59
Maymead Lime Co.								
1044 Mountain City, TN	3/04	Do.	2.85	0.2	19.1	18.0		2.84
1044 Mountain City, TN	3/04	Gr.	2.68	0.5	25.0	23.2		2.67
Mid Atlantic Materials								
3007 Arvonia, VA		Sl.	1.71	13.1		32.2		
6008 Taylor Plant King George, VA		Qz.	2.62	0.7		36.0		2.61
King George, VA #7		Qz.	2.62	0.7		36.0		2.61
6033 Rappahannock Farm Fredericksburg, VA			2.64	0.3		37.5		2.63
Fredericksburg, VA #78			2.63	0.5		37.5		2.62
Mountain Enterprise, Inc.								
1066 Glade Spring, VA	3/04	L.S.	2.75	0.3	19.7	19.6		2.75
1092 Saltville, VA	3/04	L.S.	2.69	0.3	22.4	22.4		2.68
Mundy, C. S.								
8007 Singers Glen, VA		Ls. & Do.	2.81	0.3		15.6		2.81
8006 Forestville, VA		Ls.	2.73	0.3		17.9		2.72
Old Castle								
1037 Castlewood, VA #1	3/04	Do.	2.83	0.4	19.0	18.8		2.71
1067 St. Paul, VA #2		Ls.	2.74	0.3	24.0			
Perry, Stuart M., Inc.								
8020 Berryville, VA		Ls. & Do.	2.86	0.3		20.2		2.85
8021 Winchester, VA		Ls. & Do.	2.71	0.2		17.9		2.71

COARSE AGGREGATES (Cont.)

Producer and Location	Date Test Performed	Classification *See Legend	SSD Specific Gravity	Absorption	L.A. Abrasion Loss			Dry Bulk Specific Gravity
					A	B	C	
Pounding Mill Quarry Corp.								
1039 Pounding Mill, VA #1	3/04	Ls.	2.71	0.5	20.9	20.2		2.70
1025 Bluefield, VA #2	3/04	Ls.	2.71	0.2	26.4	26.7		2.70
1018 Princeton, WV	3/04	Ls.	2.71	0.5	25.7	24.3		2.69
1023 Rocky Gap, VA #3	3/04	Ls.	2.74	0.4	22.6	23.0		2.73
Powell Valley Stone Co.								
1048 Dot, VA	3/04	Ls.	2.71	0.2	24.3	24.7	25.1	2.71
Rinker Materials								
1072 Mascot, TN		Ls.	2.78	0.5		16.4		2.76
1058 Abingdon, VA	3/04	Do.	2.83	0.3	17.9	16.4		2.82
1100 Elizabethton		Ls.	2.59	1.3			29.6	2.56
1105 Blountville, TN	3/04	Ls.	2.78	0.5	19.5	16.4		2.76
Riverton Corp.								
8091 Blair, WV		LS	2.70	0.8		9.3	22.1	2.67
Riverton Corp.								
Riverton, VA #10		Ls. & Do.	2.77	0.3		20.6		2.76
Rockbridge Stone								
8013 Glasgow, VA		Ls. & Do.	2.84	0.3		14.8		2.82
Rockbridge Stone Products								
8087 Monterey, VA		Ls.	2.73	0.8		16.2		2.71
Rock Products, Inc.								
Alderson, WV		Ls.	2.73	0.1		17.4		
Rockydale Quarries Corp.								
2065 Gladehill, VA (JacksMtn.)	1/06	Am.	3.12	0.8		31.8		3.10
2015 Roanoke, VA	1/06	Ls. & Do.	2.84	0.7		22.3		2.82
Rural Retreat Stone Co. T/A - H & H Stone Co.								
1091 Rural Retreat, VA	3/04	Ls.	2.69	0.3	24.7	21.2		2.68
Salem Stone Corp.								
1062 Sylvatus, VA	1/06	Qzi.	2.71	0.8	24.9	15.2		2.69

COARSE AGGREGATES (Cont.)

Producer and Location	Date Test Performed	Classification *See Legend	SSD Specific Gravity	Absorption	L.A. Abrasion Loss			Dry Bulk Specific Gravity
					A	B	C	
Shenandoah Asphalt								
8074 Vesuvius, VA		Rv.Gvl.	2.59	1.0		30.7		2.56
Shooting Creek Quarry, LLC								
2066 Floyd, VA	1/06	Am.	2.85	0.5		26.7		2.84
Sisson & Ryan, Inc.								
2047 Shawsville, VA	1/06	Ls. & Do.	2.82	0.8		19.6		2.80
Standard LaFarge								
1096 Haverhill, OH	3/04	N.S.	2.52	2.8	30.3			2.45
Staunton Lime Co.								
8057 Staunton, VA		Ls. & Do.	2.80	0.6		18.2		2.78
Tidewater Quarries, Inc.								
4029 Glen Allen Henrico County, VA		Gr.& Mmp.Gr.	2.62	0.4		21.7		2.61
4021 Richmond, VA		Am.,Bi.Gn.,& Gr.	2.77	0.7		35.5		2.75
4012 Rt 5, Richmond, VA		Qz. Gvl.	2.57	0.7		33.4		2.56
Tri-State Lime Co.								
1110 Russell County, VA	3/04		2.75	1.0	22.4	21.2		2.73
VM & M Stone								
1101	3/04		2.71	0.3		20.2		2.71
Virginia Slate								
3049 Arvonia, VA		Sl.	2.74	0.6		30.9	31.0	2.73
Vulcan Materials Co.								
1043 Boone, NC	3/04	Gr.	2.76	0.5	16.5	15.8		2.75
1076 Bristol, TN	3/04	Ls.	2.72	0.4	20.1	22.7		2.70
3008 Chatham, VA		Ss.	2.62	0.8	18.9	19.6		2.62
4055 Curles Neck, Kingsland Reach, VA	10/05	Qz.Gvl.	2.61	0.8		34.8		2.59
4015 Dale Quarry, Chester, VA		Bi.Gn.&Gr.	2.62	0.7		16.2		2.60
1094 East Stone Gap, VA		Ls.	2.73	0.4		23.9		
1040 Enka, NC	3/04	Gr.	2.73	0.6	33.7	35.7		2.72
6012 Garrisonville, VA		Gr.	3.02	0.4		14.1		3.01
6012 Garrisonville, VA #8		Gr.	3.01	0.6		14.1		2.99
4027 Hylas, VA		Mmp.Gr.&Phy	2.65	1.2		19.0		2.62
4016 Jack Quarry, Petersburg, VA		Bi.Gn.&Gr.	2.66	0.7		27.6		2.64

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List No. 5 (cont.)

COARSE AGGREGATES (Cont.)

(5) FINE AGGREGATE DATA (Grading A) – (Physical Lab)

The data listed herein represents the latest determinations as of publication date. All figures are subject to change, particularly the fineness modulus. They are, therefore, intended only as a guide.

Producer and Location	Date Test Performed	Classification *See Legend	SSD Specific Gravity	Absorption	F.M.	Soundness Loss	Percent Voids
ACCO Stone Corp							
2059 Blacksburg, VA	1/06	Ls. & Do.	2.81	0.8	3.0	4.5	50.7
Acres Sand & Gravel							
8090 Stuarts Draft, VA		N.S.	2.61	0.5	2.5	11.1	51.1
Aggregate Industries							
7040 Kirby Road, MD		N.S.	2.62	0.6	2.7	4.4	48.8
7060 LaPlata, MD		N.S.	2.62	0.6	2.7	3.8	47.9
Allied Sand & Gravel							
5033 Branchville, VA	3/06	N.S.	2.63	0.5	2.9	6.4	51.4
Amelia Sand Company							
4057 Amelia, VA	2/06		2.56	1.6	3.1	9.1	53.1
American Limestone							
1058 Abingdon, VA	3/05	Do.	2.85	0.5	2.9	5.2	50.5
1046 Watauga, TN	3/05	Ls.	2.70	0.3	3.0	6.4	51.6
APAC – Thompson Arthur							
2061 Candor, NC		N.S.	2.60	1.0	2.5		48.7
Austinville Lime							
1087 Austinville, VA	3/05	Ls	2.73	0.6	2.6	4.5	52.8
Aylett Sand & Gravel							
6018 Aylett, VA		Qz.	2.66	0.1	2.9	5.4	48.1
Becker Minerals Inc.							
1053 Cheraw, SC		Qzi.	2.58	0.6	2.7	7.1	49.4
Blair-Riverton							
Blair, W. VA		Ls. & Do.	2.69	0.9	3.2	9.2	53.0
Boxley Aggregates							
2004 Blue Ridge, VA	1/06	Ls. & Do.	2.78	1.0	3.1	5.2	52.8
3034 Piney River, VA		Ap.	2.74	1.1	2.8	12.1	50.6
8082 Lewisburg, WV		Ls.	2.69	1.0	2.5	16.0	52.4
Branscome Sand							
4050 Charles City, VA		N.S.	2.64	0.5	2.8	5.0	49.7

FINE AGGREGATE DATA (Cont.)
(Grading A)

Producer and Location	Date Test Performed	Classification *See Legend	SSD Specific Gravity	Absorption	F.M.	Soundness Loss	Percent Voids
Brett Aggregates, Inc.							
6029 Ark (Gloucester) VA	8/05	N.S.	2.63	0.3	2.6	4.5	47.5
4100 Charles City, VA			2.67	0.6	2.8	12.1	50.6
4061 Meadow Road		N.S.	2.64	0.8	2.7	7.6	47.2
8076 Stuarts Draft, VA		N.S.	2.60	1.4	2.7	15.0	52.7
4059 Hill Carter, Doswell, VA			2.64	0.5	2.7	10.3	47.3
Commercial Ready Mix Pit #2							
5055 Pendleton, NC	3/06	N.S.	2.64	0.5	2.6	4.8	51.0
Cardinal Stone Co.							
1009 Galax, VA	3/05	Gr.	2.75	0.8	3.0	9.4	54.4
C. S. Mundy							
8006 Forestville, VA		Ls.&Do.	2.68	1.2	3.4	17.2	53.7
Castle Sands Co.							
2005 New Castle, VA	1/06	Ss.	2.62	0.7	1.9	9.3	
Cunningham Sand & Gravel							
Crofton, MD	6/05		2.66	0.3	2.6	5.9	50.5
Custom Sand & Gravel							
4009 Charles City, VA		N.S.	2.63	0.3	3.1	6.8	50.0
Dillon, E. & Co.							
1064 Swords Creek, VA	3/05	Do.	2.88	0.6	2.6	11.8	53.9
DBA Maryland Mineral, Accident, MD			2.63	0.4	2.6	12.3	49.2
D&J Sand							
3048 Candor, NC		N.S.	2.60	1.1	2.5	6.0	51.1
Elkhorn Stone Co.							
1063 Elkhorn City, NC	3/05	Ls.	2.68	0.5	3.7	8.2	52.4
Elliott Sand & Gravel							
3019 Erwin, NC	1/06	N.S.	2.63	0.8	2.8	6.1	52.7
Elmo Greer, Inc.							
1029 Gibson Station, VA	3/05	Ls.	2.68	0.9	3.1	9.2	51.4
Ennstone							
6038 Kenson	12/05	N.S.	2.61	1.2	2.9	12.1	50.8
6039 Morie		N.S.	2.59	1.0	2.8	10.1	50.1

List No. 5 (cont.)

FINE AGGREGATE DATA (Cont.)
(Grading A)

Producer and Location	Date Test Performed	Classification *See Legend	SSD Specific Gravity	Absorption	F.M.	Soundness Loss	Percent Voids
Fairfax Sand & Gravel							
8070 Thomas, WV		N.S.	2.62	0.6	3.1	9.0	48.3
FCR Sand & Gravel							
4053 Bottoms Bridge, VA			2.65	0.3	2.5	5.2	49.1
Frazier Quarry							
8010 Harrisonburg, VA (Waterman)		Ls.	2.69	0.9	3.0	5.1	48.2
8062 Harrisonburg, VA (North)		Ls.	2.69	0.8	2.9	8.7	49.7
G & S Materials							
3053 Candor, NC			2.63	0.5	2.3	3.9	51.2
Gardner, E. L.							
7059 Brandywine, MD		N.S.	2.63	0.2	2.7	2.0	47.5
Global Stone							
8028 Winchester, VA		L.S.	2.67	0.9	2.9	16.6	50.5
8005 Strasburg, VA		L.S.	2.67	1.2	3.1	16.3	52.5
Glover Materials, Inc.							
5029 Margarettsville, N.C	3/06	N.S.	2.64	0.3	2.9	5.4	50.7
Gudelsky Materials							
7057 Brandywine, MD		N.S.	2.63	0.4	2.8	2.2	48.4
Hanson Aggregates							
2064 Erwin, NC (Cape Fear Plant)		N.S.	2.61	0.7	2.7	7.5	50.6
3019 Erwin, NC (Elliott Plant)		N.S.	2.61	0.7	2.6	7.8	50.1
3018 Lillington, NC		Rv.	2.60	0.8	2.7	7.4	50.4
Heard Aggregate							
Waverly, VA	2/06	N.S.	2.61	0.5	3.0	10.6	51.8
Howlin Concrete Co.							
7056 Mechanicsville, MD		N.S.	2.62	0.7	2.6	3.7	47.6
Kaye Construction							
Seaford, DE		N.S.	2.63	0.6	2.6	7.2	47.4
Luck Stone Corp.							
6014 Caroline, VA		Qz.	2.76	0.6	2.5	7.5	49.9
6034 King William, VA		Gr.	2.63	0.6	2.6	8.4	50.4
6027 Mattaponi, King William, VA		Gr.	2.64	0.3	2.7	5.1	49.3

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List No. 5 (cont.)

FINE AGGREGATE DATA (Cont.)
(Grading A)

Producer and Location	Date Test Performed	Classification *See Legend	SSD Specific Gravity	Absorption	F.M.	Soundness Loss	Percent Voids
Luck Stone Corp. (cont.)							
4045 Powhatan, VA		Am.Gn.& Mmp.Gr.	2.75	1.1		15.5	
8071 Staunton, VA		Ls.	2.70	1.3	3.0	11.0	52.9
Lyalls Stone	3/05						
1080 Mouth of Wilson, VA		N.S.	2.74	0.1	2.5	12.2	56.6
Martin Marietta							
1068 Milton, KY	3/05	N.S.	2.58	1.3	3.0	6.7	44.0
6031 Spotsylvania, VA		G.R.	2.71	0.5	2.8	22.9	58.3
8064 Fort Spring, WV		Ls.&Do.	2.70	0.9	3.5	8.4	49.8
Maryland Rock							
7041 Leonardtown, MD		N.S.	2.63	0.5	2.8	4.9	46.1
7051 Nanjemoy, MD		N.S.	2.62	1.0	2.9	4.6	49.2
Mason-Dixon							
Port-Deposit, MD	11/05	N.S.	2.65	0.9	2.9	3.0	50.3
Maymead Lime Co.							
1044 Mountain City, TN	3/05	Gr.	2.72	0.7	3.1	25.5	55.0
Mid Atlantic Materials							
7034 Arlington, VA		N.S.	2.63	1.3	2.7	8.6	50.4
6033 Rappahannock Farm Fredericksburg, VA			2.63	0.6	3.1	9.8	49.6
6008 Taylor Plant King George, VA		Qz.	2.57	1.3	2.9	13.3	49.1
Old Castle							
1037 Castlewood, VA	3/05	Do.	2.73	0.9	2.9	7.2	52.2
Patton Sand Co.							
1078 Galax, VA		Qzi.	2.66		3.2	7.7	46.1
Patuxent Materials, Inc.							
7063 Wayson's Corner, MD		N.S.	2.64	0.8	2.6	6.5	49.5

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List No. 5 (cont.)

FINE AGGREGATE DATA (Cont.)
(Grading A)

Producer and Location	Date Test Performed	Classification *See Legend	SSD Specific Gravity	Absorption	F.M.	Soundness Loss	Percent Voids
Perry, Stuart M., Inc							
8021 Winchester, VA		Ls. & Do.	2.68	1.0	3.3	5.5	48.9
Pounding Mill Quarry Corp.							
1025 Bluefield, VA #2	3/05	Ls.	2.69	0.7	3.0	6.9	50.5
1039 Pounding Mill, VA #1	3/05	Ls.	2.68	0.9	3.6	18.6	51.3
1023 Rocky Gap, VA #3	3/05	Ls.	2.69	0.9	3.5	10.3	52.3
Rockbridge Stone							
8013 Glasgow, VA		Ls.	2.79	1.0	3.3	8.0	51.8
Rockydale Quarries Corp.							
2015 Roanoke, VA	1/06	Ls. & Do.	2.80	1.6	3.1	5.4	51.1
Sand Mountain Sand, Inc.							
1083 Wytheville, VA	3/05	N.S.	2.64	0.4	2.5	10.9	49.8
Seneca Quarry							
Thomas, WV		Ls.	2.63	0.3	2.7	7.7	49.2
Nat. Resources Co. (HILLTOP)		N.S.	2.67	1.1	2.8	9.3	
Shenandoah Asphalt							
8074 Vesuvius, VA		N.S.	2.61	0.8	2.6	9.0	52.5
Sisson & Ryan Co., Inc.							
2047 Shawsville, VA	1/06	Ls. & Do.	2.77	1.1	2.9	4.7	51.8
Sloan Materials							
7062 Leonardtown, MD		N.S.	2.63	0.5	2.9	5.0	47.7
Standard Lafarge							
1096 Haverhill, OH	3/05	N.S.	2.60	1.2	2.6	8.8	45.9
Three Rivers S&G							
6036 Woodford, VA		N.S.	2.63	0.5	3.3	11.4	50.4

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List No. 5 (cont.)

FINE AGGREGATE DATA (Cont.) (Grading A)

(5) ASPHALT CONCRETE FINE AGGREGATE DATA – (Physical Lab)

The data listed herein represents the latest determinations as of this publication date. All figures are subject to change. They are, therefore, intended only as a guide. NOTE: Tests performed with No. 10 screening are indicated.

Producer and Location	Date Test Performed	Classification *See Legend	Dry Bulk Specific Gravity	Absorption	Soundness Loss	Sand Equivalent
20/20 Sand						
5023 Mufresboro, NC	3/06	N.S.	2.63	0.5	6.4	98
ACCO Stone Corp.						
2059 Blacksburg, VA	1/06	Ls. & Do.	2.81	0.8	4.5	84
Acres Sand & Gravel						
8090 Stuarts Draft, VA		N.S.	2.63	0.6	10.9	51.3
Adams Stone Co.						
1003 Burdine, KY		Ls.	2.69	0.3	10.5	69
Aggregate Industries						
8086 Millville, WV #10		Ls.	2.84	0.3	2.5	91
8086 Millville B Sand			2.77	0.6	8.9	90
Allied Sand & Gravel						
5033 Branchville, VA	3/06	N.S.	2.63	0.5	6.4	88
Amelia Sand Co.						
4057 Amelia, VA			2.55	0.8	7.3	75
APAC of VA						
2061 Candor, NC		N.S.	2.60	1.5	20.8	97
3035 Dan River South Boston, VA		N.S.	2.59	1.3	14.7	98
Ararat Rock Products						
2003 Mt. Airy, NC	1/06	Gn.	2.74	1.2	10.1	78
Arundel Corp. Baltimore, MD			2.52	0.4	9.4	63
Arundel Corp.						
5016 Havre-de-Grace, MD#10		Di.(Tr.)	2.73	0.7	8.5	81
Aylett Sand & Gravel						
6018 Aylett, VA		Qz.	2.65	0.2	5.4	98
Barker Sand Co.						
3040 Staunton River Clover, VA		Rv	2.61	1.5	20.2	93
Barrick, S.W. Woodsboro, MD # 10		L.S.	2.72	0.1	3.0	59
Blair – Riverton Blair, W. VA.		Ls. & Do.	2.66	0.9	9.2	81

ASPHALT CONCRETE FINE AGGREGATE DATA (Cont.)

Producer and Location	Date Test Performed	Classification *See Legend	Dry Bulk Specific Gravity	Absorption	Soundness Loss	Sand Equivalent
Blue Ridge Sand Fries, VA		N.S.	2.53	2.0	16.7	88
Boxley Aggregates						
2004 Blue Ridge, VA	1/06	Ls. & Do.	2.75	1.0	5.2	73
Dan River		N.S.	2.56	1.4	22.6	95
2009 Fieldale, VA	1/06	Gn.	2.84	0.7	23.0	80
3003 Lawyers Road #10 Lynchburg, VA		Ar.Ma.	2.71	1.0	10.8	92
3003 Lawyers Road #B Lynchburg, VA		Ar.Ma.	2.69	0.6	8.4	91
8082 Lewisburg, WV		Ls.	2.66	1.0	16.0	90
3030 Mt. Athos, VA B		Gs.	2.87	2.2	13.6	84
3030 Mt. Athos, #10		Gs.	2.86	2.4	16.6	70
3030 Mt. Athos, #10A		Gs.	2.86	2.1	15.4	86
3034 Piney River, VA #10		Ap.	2.52	3.8	8.3	72
3034 Piney River, VA #10B		Ap.	2.63	2.2	5.7	85
Blue Stone						
1099 Princeton, WV	3/05	N.S.	2.62	1.6	12.8	98
Branscome Sand						
4050 Charles City, VA		N.S.	2.62	0.2	7.9	86
Brett Aggregates, Inc.						
6029 Ark (Gloucester, VA)			2.63	0.2	3.7	78
8059 Grottoes, VA		N.S.	2.54	1.9	24.0	77
4059 Hill Carter, Doswell, VA			2.63	0.6	9.6	71
8076 Stuarts Draft, VA		N.S.	2.56	1.4	15.0	88
Bull Run Stone Co.						
7003 Manassas, VA #10		Db.(Tr.)	2.80	1.2	13.3	59
C & B Sand Co.						
3029 (Staunton River) Altavista, VA		N.S.	2.62	1.7	20.9	98
Cardinal Stone Co.						
1009 Galax, VA	3/05	Bi.	2.75	0.9	6.4	83
Castle Sands Co.						
2005 New Castle, VA	1/06	Ss.	2.60	0.7	9.3	78
Cedar Mountain Stone Corp.						
7001 Louisa, VA #10		Gr.	2.66		12.0	87
7031 Mitchell, VA #10	6/05	Db.(Tr.)	3.03	0.3	3.3	71

ASPHALT CONCRETE FINE AGGREGATE DATA (Cont.)

Producer and Location	Date Test Performed	Classification *See Legend	Dry Bulk Specific Gravity	Absorption	Soundness Loss	Sand Equivalent
Chantilly Crushed Stone Co						
7004 Chantilly, VA #10		Db. (Tr.)	2.96	0.6	9.5	48
Commercial Ready Mix Pit #2						
5055 Pendleton, NC	3/06	N.S.	2.64	0.5	4.8	98
Conner, D. M.						
8084 Stuarts Draft, VA (B sand)		N.S.	2.58	0.8	14.8	67
Custom Sand & Gravel						
4009 Providence Forge, VA		N.S.	2.65	0.2	6.8	98
Dillion, E & CO.						
1064 Swords Creek, VA	3/05	Do.	2.81	0.7	5.6	90
Dixon Sand Co						
3012 Dillwyn, VA		Ky.	2.64	0.7	8.6	97
Elkhorn Stone Co.						
1063 Elkhorn City, KY	3/05	Ls.	2.62	1.3	15.7	60
Burdine, KY	3/05	Ls.	2.68	0.3	10.5	69
Ennstone						
6038 King George, VA (Kenson)		N.S.	2.62	0.9	12.5	89
6039 King George, VA (Morie)		N.S.	2.61	1.0	10.1	78
F & M Construction Co.						
1011 Carroll County, VA	1/06	Qzi.	2.64	1.1	12.0	73
Fairfax Sand & Gravel						
8070 Thomas, WV		N.S.	2.60	0.6	9.0	85

ASPHALT CONCRETE FINE AGGREGATE DATA (Cont.)

Producer and Location	Date Test Performed	Classification *See Legend	Dry Bulk Specific Gravity	Absorption	Soundness Loss	Sand Equivalent
Frazier Quarry						
8010 (Waterman) Harrisonburg, VA		Ls.	2.66	0.9	5.1	91
8062 (North) Harrisonburg, VA		Ls.	2.67	0.8	8.7	88
Genstar Corp.						
8068 Frederick, MD		Do.	2.72		8.8	71
Gill, C.M. Sand Pit						
4060 Mecklenburg, VA			2.57	1.2	20.0	89
Global Stone						
8028 Winchester, VA		L.S.	2.65	0.9	16.6	88
8005 Strasburg, VA		L.S.	2.63	1.2	14.3	77
Glover Materials						
5029 Margarettsville, NC	3/06	N.S.	2.64	0.3	5.4	98
Goodloe, P. C.						
6019 Rte. 3 Fredericksburg, VA		Qz.	2.59	1.1	15.3	78
Gravley Sand Co.						
3016 (Dan River)Rte 1146		N.S.	2.57	1.1	16.0	92
3027 (Sandy River)Rte 750		N.S.	2.52	1.8	11.8	84
3037 (Sandy River)Rte 869 Woodlawn Drive		N.S.	2.55	2.0	11.4	70
		N.S.	2.60	1.1	10.7	89
Gudelsky Materials						
Brandywine, MD		N.S.	2.61	0.5	3.3	93
Hall Sand Co.						
3023 Buffalo River Amherst, VA		N.S.	2.48	3.6	19.2	82
Holton River Quarry, Inc.						
2044 Dublin, VA	1/06	Ls.	2.69	0.7	3.6	72
Horsey, David G. & Son						
5039 Laurel, DE		N.S.	2.56	1.0	9.6	94
Heard Aggregate						
Waverly, VA	2/06	N.S.	2.60	0.5	10.6	84

ASPHALT CONCRETE FINE AGGREGATE DATA (Cont.)

Producer and Location	Date Test Performed	Classification *See Legend	Dry Bulk Specific Gravity	Absorption	Soundness Loss	Sand Equivalent
James River S/G						
Charles City Co.		N.S.	2.62	0.7	7.5	74
Jessee Stone Co.						
1038 Woodway, VA	3/05	Ls.	2.68	0.6	10.5	69
Lawhorne Bros., Lynchburg						
3038 (Otter River) Rte. 24		N.S.	2.50	1.6	15.7	97
3039 (Otter River) Rte. 734		N.S.	2.60	1.4	18.3	93
(Otter River) Rte. 711		N.S.	2.60	1.5	16.2	90
LeSueur-Richmond Slate (-1/2")						
3032 Arvonia, VA, #2		Sl.	2.72	0.5	12.5	46
Lone Star Industries						
Alberta, VA			2.62	0.6	22.7	41
Loudon Quarry						
7011 Herndon, VA #10	10/05	Db.	2.99	0.2	5.2	76
Luck Stone Corp.						
7052 Bealeton, VA#10	6/05	Db.	2.94	0.6	3.2	54
7003 Manassas, VA#10		Db.(Tr.)	2.88	0.7	6.1	65
4002 Burkeville, VA#10		Am.Gn. & Gr	2.65	0.3	10.0	62
Burkeville, VA B Sand			2.66	0.3	8.1	81
6014 Caroline, VA		N.S.	2.64	0.3	6.3	95
7007 Centreville, VA #10	6/05	Db.(Tr.)	2.84	0.8	4.6	65
7020 Goose Creek, VA #10		Db.(Tr.)	2.97	0.3	3.3	46
6034 King William, VA		N.S.	2.63	0.6	8.4	89
7010 Leesburg, VA B	9/05	Db.(Tr.)	2.91	0.7	8.2	47
7055 Louisa, VA #10		Gr.	2.71	0.1	7.5	73
4001 Boscobel, Manakin #10		Gn. & Gr.	2.58	1.27	14.9	75
Manakin B Sand			2.63	0.9	15.9	65
6027 Mattaponi		N.S.	2.66	1.3	19.3	69
4045 Powhatan, VA #10		Am.Gn.Mmp. & Gr.	2.67	1.0	11.2	61
4011 Rockville,VA #10		Qzi.& Mmp. Gn.	2.65	0.7	20.9	68
7043 Ruckersville, VA #10		Gr. & Gn.	2.80	0.1	14.9	75
8071 Staunton, VA		Ls.	2.67	1.1	11.0	80
7005 Shadwell, VA #10		Gs.	2.91	0.2	8.8	63
7005 Shadwell, VA Gr. B	6/05	Gs.	2.84	0.3	5.2	77
7006 Stevensburg, VA #10		Sis.	2.71	0.9	10.3	65
Lyalls Stone						
1080 Mouth of Wilson, VA	3/05	Gr.	2.76	0.4	12.9	71

ASPHALT CONCRETE FINE AGGREGATE DATA (Cont.)

Producer and Location	Date Test Performed	Classification *See Legend	Dry Bulk Specific Gravity	Absorption	Soundness Loss	Sand Equivalent
Marshall Concrete						
3046 Dan River		N.S.	2.58	2.0	21.3	94
Martin Marietta Aggregates						
4054 Anderson Plant Rockville, VA #10			2.67	0.5	18.6	48
4008 Doswell, VA			2.72	0.6	19.4	47
8064 Fort Spring, WV		Ls.&Do.	2.67	0.9	8.4	95
7017 Red Hill Plant North Garden, VA #10	7/05	Gr.	2.79	0.1	7.7	79
6031 Spotsylvania, VA #10		Gr. Scr.	2.70	0.3	11.0	95
046 Warbro Road Chesterfield, VA		Gr.& Am.Gn.	2.67	0.4	5.5	52
3046 Marshall Concrete						
Dan River		N.S.	2.58	2.0	21.3	94
Maryland Rock						
7041 Nanjemoy, MD (Goosebay Plant)		N.S.	2.66	0.7	3.4	85
Maymead Lime Co.						
1044 Mountain City, TN	3/05	Do.	2.77	0.7	4.1	79
1044 Mountain City, TN	3/05	Gr.	2.68	1.2	22.8	74
McCarty Sand Co.						
3025 (Dan River) Danville, VA		N.S.	2.60	1.1	16.2	98
3024 (Staunton River) Clover, VA		N.S.	2.58	1.5	17.4	99
Mercer Crushed Stone						
1018 Princeton, WV	3/05	Ls.	2.77	0.9	6.6	91
Mid Atlantic Materials						
6008 Taylor Plant King George, VA		N.S.	2.62	0.9	7.3	97
6033 Rappahanock Farm Dogue, VA		N.S.	2.63	0.6	6.8	99
White Pl.		N.S.	2.56	0.6	9.6	84

ASPHALT CONCRETE FINE AGGREGATE DATA (Cont.)

Producer and Location	Date Test Performed	Classification *See Legend	Dry Bulk Specific Gravity	Absorption	Soundness Loss	Sand Equivalent
Moore, Gerald						
Exmore, VA		N.S.	2.63	0.4	3.9	98
Mountain Enterprise						
1066 Glade Spring, VA	3/05	Ls.	2.70	1.1	5.7	77
1092 Saltville, VA	3/05	Ls.	2.65	1.3	7.3	55
C. S. Mundy						
8006 Forrestville, VA		Ls.	2.65	1.2	17.2	79
Old Castle						
1037 Castlewood, VA #1	3/05	Do.	2.67	1.0	11.4	64
Patton Sand Co.						
1078 Galax, VA	3/05		2.55	1.9	12.7	87
Perry, Stuart M., Inc.						
8021 Winchester, VA		Ls.&Do.	2.65	1.0	5.5	86
Pounding Mill Quarry Corp.						
1039 Pounding Mill, VA #1	3/05	Ls.	2.65	1.3	14.5	88
1025 Bluefield, VA #2	3/05	Ls.	2.73	0.8	6.3	89
1023 Rocky Gap, VA #3	3/05	Ls.	2.61	1.5	14.0	73
Powell Valley Stone						
1048 Dot, VA	3/05	Ls.	2.60	1.4	13.4	77
P.R.D.S.						
Abingdon, MD			2.81	2.4	20.5	50
Prillman & Pace, Inc.						
2040 Martinsville, VA	1/06	NS	2.52	2.80	14.9	74
Rinker Stone Co.						
1058 Abington, VA	3/05	Do.	2.82	0.5	6.2	91
1100 Elizabethton, TN		Ls.	2.70	1.5	5.7	65

ASPHALT CONCRETE FINE AGGREGATE DATA (Cont.)

Producer and Location	Date Test Performed	Classification *See Legend	Dry Bulk Specific Gravity	Absorption	Soundness Loss	Sand Equivalent
Rockbridge Stone						
8013 Glascow, VA		Ls.	2.76	1.0	8.0	93
Rockydale Quarries, Corp.						
2065 Glade Hill, VA (Jacks Mountain.)	1/06	Am.	2.94	2.3	23.2	99
2015 Roanoke, VA	1/06	Ls & Do	2.75	1.6	5.4	84
Staunton Lime Co						
8057 Staunton, VA		Ls	2.78	0.4	5.4	77
Rose Brothers Paving						
Rich Square, NC			2.58	0.6	12.8	85
Salem Stone Company						
1062 Sylvatus, VA	1/06	Qzi.	2.64	0.8	14.4	58
Sand Mountain Sand Inc.						
1083 Wytheville, VA	3/05	N.S.	2.61	0.3	3.0	95
Seneca Quarry		Ls.	2.60	0.7	8.3	88
Seneca Quarry						
Thomas, WV		Ls.	2.62	0.3	7.7	73
Shenandoah Asphalt						
8074 Vesuvius, VA		N.S.	2.59	0.8	9.0	87
Sisson & Ryan Co, Inc.						
2047 Shawsville, VA	1/06	Ls. & Do.	2.74	1.1	4.7	89
Slate Sand Co.						
2062 Pilot Mt., NC	1/06	N.S.	2.59	1.0	10.6	95
South Central Sand						
3028 (Dan River)		N.S.	2.58	1.3	22.6	96
Templeton, M. V. & Sons, Inc. Lynchburg, VA						
7037 Rivanna Rvr Columbia, VA		N.S.	2.51	1.6	14.5	100
3020 Otter Rvr Evington, VA		N.S.	2.60	2.0	11.0	90
2056 Otter Rvr Huddleston, VA		N.S.	2.55	1.6	15.7	97
Rose Bros. Grit Pit						
5065 Rich Square, NC	3/06	N.S.	2.63	0.8	5.9	84

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List No. 5 (cont.)

ASPHALT CONCRETE FINE AGGREGATE DATA (Cont.)

Producer and Location	Date Test Performed	Classification *See Legend	Dry Bulk Specific Gravity	Absorption	Soundness Loss	Sand Equivalent
Tharpe Sand Co.						
3043 (Staunton River) Randolph, VA		N.S.	2.60	1.9	22.7	92
Thompson's Inc.						
3052 Dan River,		N.S.	2.58	1.7	7.7	94
Tidewater Quarries						
4021 Richmond, VA #10		Am.-Bi.-Gn & Gr. Scr.	2.84	0.5	17.6	66
4029 Henrico, VA			2.59	0.5	8.4	70
4012 Rte. 5, Richmond,VA		N.S.	2.61	0.7	6.6	95
Tri-State Lime						
1032 Blountville, TN	3/05		2.74	1.1	9.0	79
1110 Russell County, VA	3/05		2.71	1.4	5.4	84
Virginia – Carolina						
3045 Dan River		N.S.	2.57	1.3	11.4	96
Virginia Limestone						
Klotz, VA		L.s.	2.63	0.4	4.3	71
Vulcan Materials						
1043 Boone, NC	3/05	Gr.	2.68	0.7	7.8	51
1076 Bristol, TN	3/05	Ls.	2.65	1.2	4.2	89
4055 Curles Neck, VA #10		N.S.	2.66	0.5	11.1	79
4015 Dale Quarry Chester, VA #10		Bi.Gn.&Gr.Scr	2.64	0.3	16.2	64
3009 Danville, VA #10		Gr. Gn.	2.61	0.7	8.5	83
3009 Danville, VA "B"		Gr. Gn.	2.40	4.0	14.9	85
1040 Enka, NC	3/05	Gr.	2.76	0.1	10.0	76
6012 Garrisonville, VA #10			3.00	0.4	11.1	63
4049 Greystone, NC #10	9/05		2.58	0.8	14.9	65
Hanover, PA #10			2.80	0.2	5.7	72
4027 Hylas, VA #10		Mmp.Gr. & Phy	2.65	1.1	20.1	59
4016 Jack Quarry Petersburg, VA		Bi.Gn.&Gr.Scr	2.56	0.5	18.3	71
4017 Kingsland, Willis Road Richmond,VA		N.S.	2.64	0.8	7.7	84
1035 Kingsport, TN		Ls.	2.66	1.3	11.0	63
4022 Lawrenceville,VA #10		Gr.&Bi.Gn.	2.76	0.1	11.5	60
7022 Manassas, VA #10		Db.(Tr.)	2.83	0.9	13.0	37
6030 New Post New Post, VA		Qz.	2.55	1.5	18.7	84
1109 North Wilkesboro, NC			2.73	0.1	3.7	77
1093 Norton, VA #1	3/05	Ls.	2.64	1.3	11.9	89

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List No. 5 (cont.)

ASPHALT CONCRETE FINE AGGREGATE DATA (Cont.)

Producer and Location	Date Test Performed	Classification *See Legend	Dry Bulk Specific Gravity	Absorption	Soundness Loss	Sand Equivalent
Vulcan Materials (cont.)						
7023 Occoquan, VA #10	7/05	Gr.& Gn	2.65	0.6	12.8	62
4018 Puddledock Petersburg, VA		N.S.	2.60	0.8	9.2	91
4044 Richmond, VA	12/05	N.S.	2.75	1.4	25.9	43.0
5004 Skippers, VA #10	2/06	Gr.	2.69	0.2	7.3	62
3010 South Boston, VA #10		Gr.	2.61	3.3	7.5	57
3010 South Boston, VA W		Gr.	2.73	1.6	11.4	90
1095 Speers Ferry, VA #4	3/05	Ls.	2.64	1.4	21.8	69
4052 Union Level, VA #10			2.64	0.2	15.1	61
7015 Warrenton, VA #10	8/05	Db.(Tr.)	2.91	1.0	7.5	74
Wythe Stone Co						
1082 Wytheville, VA	3/05	Ls.	2.83	0.3	9.3	73
Wytheville, VA		N.S.	2.80	1.2	8.7	88

List No. 5 (cont.)

(5) LIGHTWEIGHT AGGREGATE DATA – (Physical Lab)

Note: Lightweight aggregates must conform to section 206 of VDOT's 2002 Road and Bridge Specifications before used for VDOT work.

Producer and Location	Date Test Performed	Classification *See Legend	SSD Specific Gravity	Absorption	LA Abrasion Loss			Dry Bulk Specific Gravity
					A	B	C	
Carolina Stalite Co. 2070 Aquadale, NC		Sl.	1.5	5.4		27.0		
Carolina Stalite Co. 2069 Gold Hill, NC		Sl.	1.50	5.4			29.7	
Mid Atlantic Materials 3007 Arvonia, VA		Sl.	1.71	13.1			32.2	

LEGEND: Refer to following list for geological classification abbreviations used in the table above.

Am.	- Amphibole	Gr.	- Granite	Qz.	- Quartz
Ap.	- Aplite	Gs.	- Greenstone	Qzi.	- Quartzite
Ar.	- Arch	Gvl.	- Gravel	Rv.	- River Sand
B.	- Basalt	Ky.	- Kynite	Scr.	- Screenings
Bi.	- Biotite	Ls.	- Limestone	Sg.	- Slag
Db.	- Diabase	Ly	- Limy	Sh.	- Shale
Di.	- Diorite	Ma.	- Marble	Sis.	- Siltstone
Do.	- Dolomite	Mmp.	- Metamorphosed	Sl.	- Slate
Fs.	- Feldspar	N.S.	- Natural Sand	Ss.	- Sandstone
Gn.	- Gneiss	Phy.	- Phyllite	Tr.	- Traprock
(FT)	Freeze-Thaw Method of Soundness determination				

(6) **2006 – 2007 AGRICULTURAL LIMING MATERIALS REGISTRATION – (Chemistry Lab)**

Name and Address of Manufacturer Brand Name	Cal. Carb. Equiv. % (CCE)	SCREEN STANDARD		
		Min 20	Mesh 60	Screen 100
Altavista Power Station Altavista, VA				
<i>Altavista Power Station Waste Lime (I)</i>	63.2	92	70	60
Amelia Sand Company Richmond, VA				
<i>ASC Liming Material (I)</i>	96	92	73	55
Appomattox Lime Company Appomattox, VA				
<i>Appomattox Lime (D)</i>	90	90	50	40
Austinville Limestone Company Austinville, VA				
<i>Austinville Ground Limestone – Bulk (D)</i>	95	90	50	35
Baker Lime York, PA				
<i>Bakers AG 18 Ground Damp (D)</i>	105.6	90	60	50
<i>Bakers Commercial Pulverized Damp (D)</i>	105.6	100	85	75
Bioz Agri Products, Inc. Oliver, BC				
<i>Get-A-Lawn Natural Lime Liquid Concentrate (D)</i>	22	100	100	100
Boxley Materials Company Roanoke, VA				
<i>Boxley Materials Ground Limestone (D)</i>	93	98	80	70
C S Mundy Quarries, Inc. Broadway, VA				
<i>Mundy's High Mag Ground Limestone (D)</i>	85	90	50	30

Name and Address of Manufacturer Brand Name	Cal. Carb. Equiv. % (CCE)	SCREEN STANDARD		
		Min 20	Mesh 60	Screen 100
Carrsville Farmers, Inc. Carrsville, VA				
<i>Carrsville Farmers Dolomitic (D)</i>	100	90	50	30
Chemical Lime Company of VA, Inc. Ripplemead, VA				
<i>Chemical Hydrated Lime (H)</i>	127	100	98	95
Cleary Chemical Corporaton Dayton, NJ				
<i>Limestone F Liquid (D)</i>	56.49	100	100	100
Culpeper Farmers Coop Culpeper, VA				
<i>Ground Dolomitic Limestone (D)</i>	85	90	50	30
<i>Pulverized Calcitic Limestone (C)</i>	85	90	75	70
E. Dillon & Company Swords Creek, VA				
<i>E. Dillon & Co. Dolomite Ag-Lime (D)</i>	104	100	95	85
<i>E. Dillon & Co. Bulk Ag-Lime (D)</i>	104	90	50	30
Enviro Organic Technologies New Windsor, MD				
<i>EOT Corbalis (I)</i>	63.26	99.48	96.48	92.83
Espoma Company, The Millville, NJ				
<i>Espoma Organic Traditions Garden Lime (D)</i>	100	100	88	80
Frazier Quarry, Inc., The Harrisonburg, VA				
<i>Frazier Ag-Lime (C)</i>	85	95		70
Green Charger Fertilizer Co. Richmond, VA				
<i>Green Charger Pelleted Limestone (D)</i>	93.6	90	55	35

Name and Address of Manufacturer Brand Name	Cal. Carb. Equiv. % (CCE)	SCREEN STANDARD		
		Min 20	Mesh 60	Screen 100
Greer Lime Company Morgantown, WV				
<i>Greer Hydrated Lime (H)</i>	125	100	100	98
<i>Greer Pulverized Ag-Lime (C)</i>	96	100	98	90
Greif Riverville, LLC Amherst, VA				
<i>Greifwood Ash Substandard Liming Material (I)</i>	50	76	63	51
Gro Tec, Inc. Covington, GA				
<i>Green Charm Pelletized Dolomitic Limestone (D)</i>	90	90	50	40
Hoffman, A. H., Inc. Lancaster, NY				
<i>Hoffman Horticultural Hydrated Lime (H)</i>	128	99.9	99.7	99
Hyponex Corporation Marysville, OH				
<i>Hyponex Pelletized Lawn & Garden Limestone (D)</i>	103.5	100	85	75
<i>Hyponex Pelletized Lawn & Garden Limestone (D)</i>	105.6	100	85	75
Jessee Stone Company Pennington Gap, VA				
<i>Woodway Lime (C)</i>	85	90	50	30
Johnson City Chemical Co. Inc. Johnson City, TN				
<i>JCC Pelletized Limestone (D)</i>	93	100	88	80
Kelly Limestone, LLC Kirksville, MO				
<i>Kelly's Capsulated Dolomitic Limestone (C)</i>	86	95	61	50
<i>Kelly's Capsulated High Calcium Limestone (C)</i>	93	95	61	50

Name and Address of Manufacturer Brand Name	Cal. Carb. Equiv. % (CCE)	SCREEN STANDARD		
		Min 20	Mesh 60	Screen 100
LaFarge Mid-Atlantic, Inc. Towson, MD				
<i>Hi Cal Agri Limestone, Medford, MD (C)</i>	93.8	98	94	80
<i>Hi Mag Agri Limestone, Texas, MD (D)</i>	84	95	83	70
Luck Stone Company Richmond, VA				
<i>Luck Lime – Elkton, VA (D)</i>	95	90	50	30
Martin Limestone, Inc. Blueball, PA				
<i>Martin's #18 Calcium Limestone (C)</i>	90.4	90	60	50
<i>Martin's #18 Magnesium Limestone (D)</i>	103.5	90	60	50
<i>Martin's Calcium Limestone(C)</i>	90.4	98	70	65
<i>Martin's Magnesium Limestone (D)</i>	103.5	98	80	75
Miller Breweries East, Inc. Eden, NC				
<i>Farm O. N. (I)</i>	13	90	50	30
Mineral Processing Carey, OH				
<i>NutraLime (D)</i>	97	99	66	60
O-N Minerals (Chemstone) Company Strasburg, VA				
<i>Clear Brook Calcitic Limestone (C)</i>	89.7	95	75	50
O-N Minerals (Chemstone) Company Strasburg, VA				
<i>Middletown Calcitic Limestone (C)</i>	94.8	99	97	90

Name and Address of Manufacturer Brand Name	Cal. Carb. Equiv. % (CCE)	SCREEN STANDARD		
		Min 20	Mesh 60	Screen 100
O-N Minerals, Luttrell Company Luttrell, VA				
<i>HI-Calcium Hydrated (H)</i>	125	100	96	90
OldCastle Stone Products Thomasville, PA				
<i>Pro Pulverized Limestone – Calcitic (C)</i>	94	100	88	80
<i>Pro Pulverized Limestone – Dolomitic (D)</i>	95	100	88	80
<i>Soil Dr. Pelletized Lawn Lime – Dolomitic (D)</i>	95	95	72	54
<i>Soil Dr. Pelletized Garden Lime – Dolomitic (D)</i>	95	95	80	70
OldCastle Stone Products Thomasville, PA				
<i>Pro Pulverized Limestone – Calcitic (C)</i>	94	100	88	80
<i>Pto Pulverized Limestone – Dolomitic (D)</i>	95	100	88	80
<i>Soil Dr. Pulverized Garden Lime – Dolomitic (D)</i>	95	95	80	70
OldCastle Stone Products Chatsworth, GA				
<i>Soil Dr Pelletized Lawn Lime (C)</i>	91	100	93	82
<i>Soil Dr Pelletized Garden Lime (C)</i>	91	100	93	82
OldCastle Stone Products Lee, MA				
<i>Soil Dr Pelletized Lawn Lime – Dolomitic ()</i>	95	95	72	54

Name and Address of Manufacturer Brand Name	Cal. Carb. Equiv. % (CCE)	SCREEN STANDARD		
		Min 20	Mesh 60	Screen 100
OldCastle Stone Products Thomasville, PA				
<i>Pro Granular LS (C)</i>	96	92	50	40
<i>Pro Pulverized Limestone – Calcitic (C)</i>	97	100	85	82
<i>Pro Pulverized Limestone – Dolomitic (D)</i>	95	100	88	80
<i>Soil Dr EZ Spread GranularLimestone (C)</i>	96	92	50	40
<i>Soil Dr. Gypsum Soil Repair (C)</i>	20	98	80	75
<i>Soil Dr Pelletized Lawn Lime – Calcitic (C)</i>	91	100	93	82
<i>Soil Dr Pelletized Lawn Lime – Dolomitic (D)</i>	95	95	72	54
<i>Soil Dr Pelletized Garden Lime– Calcitic (C)</i>	91	100	93	82
<i>Soil Dr Pelletized Garden Lime – Dolomitic (D)</i>	95	95	80	70
Ontario Hardwood Co Inc Keysville, VA				
<i>Ontario Hardwood Dry Kilns Liming Material (I)</i>	87	98.72	92.5	81.6
Performance Stones & Minerals LLC Roanoke, VA				
<i>Performance – Pro Calcitic (C)</i>	94.5	99	94	90
<i>Performance – Pro Dolomitic (D)</i>	97	99		
<i>Performance – Retail Dolomitic (D)</i>	95	99	90	70

Name and Address of Manufacturer Brand Name	Cal. Carb. Equiv. % (CCE)	SCREEN STANDARD		
		Min 20	Mesh 60	Screen 100
Precision Fibers Ronda, NC				
<i>EZ Lime Liquid Plus (C)</i>	64.81	100	100	100
Prescription Fertilizer & Chemical Co. Ivor, VA				
<i>Prescription Dolomitic Lime (D)</i>	100	90	60	40
Profile Products, Inc. Buffalo Grove, IL				
<i>ProPlus NeutraLime Dry (C)</i>	97	100	99.5	96
<i>ProPlus NeutraLime Liquid (C)</i>	73	100	100	100
R. F. Morse & Son, Inc. Wareham, MA				
<i>Solu-Cal (O)</i>	92	90	80	50
<i>Solu-Cal S (O)</i>		90	60	50
Recmix of PA, Inc. Sarver, PA				
<i>Reclime(I)</i>	92	98	82	68
Rinker Materials South Central Knoxville, TN				
<i>Abingdon Ground Agricultural Limestone (D)</i>	96	90	50	30
Rinker Materials South Central Knoxville, TN				
<i>Watauga Ground Agricultural Limestone (C)</i>	91.5	95	75	50
Riverton Corporation Front Royal, VA				
<i>Riverton Aglime (C)</i>	95	95	50	35
Rockwell Lime Company Maintowoc, WI				
<i>Rolico Dolomitic Hydrated Lawn N' Garden Lime (D)</i>	150.25	99	95	90

Name and Address of Manufacturer Brand Name	Cal. Carb. Equiv. % (CCE)	SCREEN STANDARD		
		Min 20	Mesh 60	Screen 100
Rockydale Quarries Corporation Roanoke, VA				
<i>Ground Agri. Limestone – Bulk (D)</i>	97	90	50	35
<i>Ground Agri. Limestone – Bagged (D)</i>	97	100	50	35
<i>Pelletized Dolomite Limestone (D)</i>	100	100	88	80
Rohrers Quarry, Inc. Lititz, PA				
<i>RQI Hi-Cal Damp Limestone (C)</i>	88	98	65	55
Royster-Clark, Inc. Winston-Salem, NC				
<i>Greentime Premium Pelletized Limestone – D (D)</i>	100	95	80	75
Salem Stone Corporation Christiansburg, VA				
<i>Acco Ground Limestone (D)</i>	85	90	50	35
Sisson & Ryan Inc. Shawsville, VA				
<i>Sisson & Ryan Agri. Ground Limestone – Bulk (D)</i>	85	90	65	50
Southern States Richmond, VA				
<i>Southern States Calcitic Pelleted Limestone (C)</i>	97.12	100	85	72
<i>Southern States Dolomitic Pelleted Limestone (D)</i>	93	100	88	80
<i>Southern States Limestone (D)</i>	93	100	88	80
<i>Southern States Pelleted Limestone (D)</i>	93.6	90	55	35
<i>Statesman Ground Dolomitic Limestone Unburnt (D)</i>	93.6	90	50	35
Southern States Southside Petersburg, VA				
<i>SS Southside Luckstone Elkton Lime (D)</i>	95	90	50	30
Staunton Lime Company Staunton, VA				
<i>Staunton Ground Agricultural. Lime (D)</i>	100	90	50	35
Stuart M. Perry, Inc. Winchester, VA				
<i>High Mag Ground Limestone (D)</i>	90	95	80	70
<i>Pulverized Limestone (C)</i>	85	100	96	87

Name and Address of Manufacturer Brand Name	Cal. Carb. Equiv. % (CCE)	SCREEN STANDARD		
		Min 20	Mesh 60	Screen 100
Synagro-WWT, Inc. Champlain, VA				
<i>Corbalis Lime Silt Substandard Liming Material (I)</i>	15	98	96	91
Tennessee Valley Resources Jefferson City, TN				
<i>Agricultural Lime (D)</i>	85	90	50	35
<i>Baltimore Calcium Magnesium Lime (I)</i>	85	70	40	30
<i>Gordonsville Lime (D)</i>	80	90	50	35
Upper Occoquan Sewage Authority Centreville, VA				
<i>UOSA Lime Solids (I)</i>	76	99.9	99.4	98.5
Vulcan Construction Materials, LP Hanover, PA				
<i>Hanover Agri Lime (D)</i>	98	95	90	75
<i>Hanover Agri-Cal Lime (C)</i>	93	95	90	75
<i>Hanover Hi-Mag Lime (D)</i>	102	98	95	75
Winston Weaver Company, INC. Winston-Salem, NC				
<i>Weaver's Pellet Lime (D)</i>	100	100	88	80

(7) ANTISTRIPPING ADDITIVES – (Asphalt Lab)

Following is a list of approved Anti-stripping Additives:

Manufacturer	Brand Namesq	Notes
Akzo Nobel Surface Chem. LLC 7101 Adams St. Unit No. 7 Willowbrook, IL 60521	Kling Beta LV Kling Beta LV-(HM) Kling Beta2550-(HM) Kling Beta 2600 Kling Beta 2700 Kling Beta 2912 Kling Beta 3024 Perma Tac Plus Wetfix 312	100% Active 100% Active 100% Active 100% Active 100% Active 100% Active 100% Active 100% Active 100% Active
Armak Chemicals Division, Chicago ,Illinois	Redicote 82-S	100% Active
ARR-MAZ Products Winter Haven, Florida	Ad-here HP Plus Ad-here 65-00 Ad-here LOF 6500 LS Ad-here 66-01 Ad-here 62-40 Ad-here (Regular) ACRA-2000 SC-AT-50 Ad-here 6265-1 Adhere 77-00 Adhere 65-50	100% Active 100% Active 100% Active 100% Active 100% Active 100% Active 100% Active 100% Active 100% Active 100% Active
Chemoran Oranmore, Galway, Ireland	TPH	100% Active
Exxon Chemical Americas Tomah Products Milton, Wisconsin	ACRA-1000 ACRA-3000 ACRA-5000 ACRA-5092 ACRA-600L No Strip Super Concentrate 101-25B 101-25D 101-25E	100% Active 100% Active 100% Active 100% Active 90% Active 100% Active 100% Active 100% Active

List No. 7(Cont.)

Manufacturer	Brand Names	Notes
Morton International Performance Chemicals Cincinnati, Ohio	BA-2000	100% Active
	Pave Bond T-Lite	100% Active
	Pave Bond LITE	100% Active
	Morlife 2200/PC	100% Active
	Morlife 3300	100% Active
Pre Tech Industries Dearborn Brook Circle Exter, NH 03833	Pavegrip 250 G	
	Pavegrip 275	100% Active
	Pavegrip 350	
	Pavegrip 400	100% Active
	Pavegrip AA-2	
Rohm and Haas Company Denver, CO	Morlife 5000	
Seaboard Asphalt Products Co.	Super Bond 96	100% Active
SouthEastern Chemical Corp. P.O. Box 917 932 East Elm St. Graham, NC 27253	Aggrebond 275	100% Active
TAPCO, Inc. Greensboro, North Carolina	TAPCO 206	60% Active
Unichem International Santa Fe, TX	8162	100% Active
Unique Paving Materials 3993 E. 93 rd Street Cleveland, Ohio 44105-4096	HPM	
Westvaco Corp. Chemical Division Charleston Heights, South Carolina	Indulin AS-1	100% Active
	Indulin AS-Special	100% Active
	PC-705	100% Active
The quantity of Anti-stripping Additive used will be checked in accordance with VTM-13.		

List No. 8

(8) ASPHALT RELEASE AGENTS – (Asphalt Lab)

The following list of asphalt release agents is approved; however, they shall be diluted as recommended by the Manufacturer, and approved by the Department. The dilution recommendation shall be shown on a label attached to the Release Agent container. The dilution rates listed below are the maximums currently approved by the VDOT.

Manufacturer	Brand Names	Dilution Rate Agent:Water	Foaming (F) /Non-Foaming (NF)
Advanced Asphalt Technologies	Westech CT-1440	1:15	
Alzo, Inc.	RELEEZ	1: 30	NF
ARR-MAZ Products	ARR-MAZ TBRA #7191	1: 40	F
Arrow Magnolia Int'l.	Slick II	1:20	F
Breakaway Advanced	Maintenance Mates	1:20	F
Bio-Clean Ind.	Bio-Clean	1:30	
Capital Janitorial Supply	Colonial Blue Blaze	1: 20	F
Capitol Supply Co.	Rapid Release	1:15	
Certified Laboratories	Citrus Claw	Not diluted	
The ChemMark Corp.	Thermal-Slide	Not diluted	F
Chemtek, Inc.	Aqua Slip	1:15	
Chemical Technologies, LLC	PM-25	1:30	
ChemStation of Virginia	3917	1:20	
	2159	1:20	
	2620	1:20	
	2791	5:1	
ChemTek Inc.	Aqua Slip 30	1:30	F
CleanEdge formerly ChemStation	CleanEdge 2217	6:1	
	1475	1:20	
	HD-5565	1:27	F
	6992	1:40	
Cleaning Systems, Inc.	Slide	1:30	
	Asphalt Release	1:10	
Compound Technologies, Inc.	No. 1 Asphalt Release	1:5	
D&A, Inc.	L-Slip	1: 100	F
	SP-Slip	3:100	
	SMA-Slip	1: 100	F
	SB-Slip	1: 25	F
	V-Slip	1:33	F
	Slippery-Slope	3:100	F
Drummond American	Slip N Slide DL 3510	1:12	F
Diversey Corp./ DuBois Chemicals	Liqui-Slip	1: 19	F
	PolySlip	1: 30	F
	Slide-Eze	1: 30	F
	Slide-All	1:33	F
EDCO Mfg, Inc.	EDCO Asphalt Release	1: 10	F
Engineering Chemistry Co.	Slip & Slide	1:100	F
	Slip & Slide H.D.	3:100	F
	Slip & Slide VOB	3:100	NF
Express Chemical Co.	Citra Slip	1:40	
Fine Organics Corp	FO Release	3:100	F
	FO Release II	3:100	F

List No. 8(Cont.)

Manufacturer	Brand Names	Dilution Rate Agent:Water	Foaming (F) /Non-Foaming (NF)
Forcon Chemical Corp.	Super Slick	1:35	F
	Super "Release" All	1: 35	F
Foster and Company, Inc.	No Stick I	1: 10	NF
	No Stick II	1: 10	NF
Handi-Clean Prod. Inc.	Super Slide	1:15	
Stop Stix Incorporated	StopStix	1:20	
Industrial Water Group	No-Phalt Release	1:40	F
	No-Phalt Equipment	1:60	F
Industrial Controls	Synthetic Release	1:25	
JJC Materials	570156	1:30	
L & F Products	Professional NL Concentrate All Purpose Cleaner Formula 177-62	1:32	F
Lawrence Sanitary Co. Chem Station	5895	1:20	F
	1475	1:20	F
	6996	1:10	NF
	6992	1:40	NF
Maxco Supply Co.	Max Slide	1:20	F
MEPCO, Inc.	Mepcoat 103	1: 48	NF
Mid-Atlantic II	HD5510	1:20	
Morton International	Mor-Release VL	1:40	NF
NCC, Inc.	NCC-60 (Release Foam)	1: 30	F
	Release Plus	1: 40	NF
	Super Foam - SF - 92	1: 35	F
	Phalt Free	1: 35	
New Dawn Manufacturing	ESE-100	1:31	
New Life Chemical Equip.	Quick Slick	1:50	
Petroferm Inc.	PFC 265-13	1:40	
Presto Chemical Co.	Bio-Kream	1: 38	NF
	Kwik Release	1: 40	F
	E-Z Slip	1: 35	NF
	Syn-Coat	1: 40	
Pro Chem, Inc	Release	1:15	
Puritan/Churchill Chemical Co.	Churchill L 901	1:40	F
Qualichem	Formula 5110	3:100	NF
	Formula 5111	1:100	F
	Formula 5119	3:100	F
	Q-Slide 554	1:5	
Rhomar Industries, Inc.	Enviro-slide	1: 3	
Rochester Midland Corp.	Slipeazee	3: 100	NF
	Slipeazee SB	1: 30	F
	Slipeazee Natural	1: 20	
	Slipeazee Satin	1: 10	
	Slipeazee 2000	1: 30	
Roxxon Corp.	Rox-Release	2.5:100	F
	EzeSlip	1:10	F

List No. 8(Cont.)

Manufacturer	Brand Names	Dilution Rate Agent:Water	Foaming (F) /Non-Foaming (NF)
Safety First Chemicals	Safety Slide	1: 30	F
Schaeffer Mfg. Co.	#4002 Bed Release Agent	1:30	NF
Schneid, Inc.	Release	1:15	F
Secco	EZE	1:30	F
Space Chemical, Inc.	AI-6235	1:5	NF
Spartan Chem. Co. Inc.	Spartan SD-20 Cleaner	1:30	F
**SPX-7	Compound Technologies, Inc.	1:5	F
Sun Coast Supply Corp.	Harvey's Power Grease & Tar Cutter	1:25	F
Tec-Team Industries, Inc.	TECLON-50	1:37	NF
	Teclon-Pro	1:5	
Texo Corporation	TEXOPE 515	1:30	F
TPC Team Ind. Inc.	Mega-Ton	1:53	
Tri-State Equip. Sales	I-So-Slick	1: 40	
U.S. Pro-Tec, Inc.	ECO-1000	1:20	F
Vibrant Products Unltd. Corp.	Envirofoam	1: 30	F
	Super Slick	1: 30	NF
West River Products, LLC	Power Plus	1:10	F
Zep Manufacturing	EZ008	1:10	NF
	E2008	1:1	
	R-6690	1:55	

(9) APPROVED ELECTRODE AND FLUX-ELECTRODE COMBINATIONS – (Structures)

Any electrode or flux-electrode combination which appears on the approved list may be accepted without evidence of test or certification. The electrodes are to be used in the welding of the following ASTM steel base metals: A709, Gr.36, Gr. 50, Gr. 100, Gr. 50W, 70W, and 100W.

If the Fabricator or Contractor desires to use any electrode or flux-electrode combination which is not on the approved list, he may do so, providing he submits certified copies of test reports of all pertinent required tests of the American Welding Society made on electrodes and flux-electrode combinations of the same class, size and brand, and which were manufactured by the same process and with the same materials as the brands being furnished.

*E6010 and E6011 rods may only be used for miscellaneous welding (piling, forms, railing, etc.).

**F6A2, F6A4, or F6A6 may only be used to weld A36 steel.

List No. 9 (Cont.)

**FILLER METAL FOR M270M (M270) A709M (A709) GR. 36, 50, 100
AND PAINTED GR. 50W AND 100W STEEL**

MANUFACTURER	TRADE NAME	AWS CLASSIFICATION	AWS SPECIFICATION
The ESAB Group, Inc.	ATOM Arc 7018-1	E7018-1 H 4R	A5.1
	ATOM Arc 7018	E7018 H 4R	A5.1
	Dual Shield 7100 Ultra	E 7/T-1/T-1M/T-9/T-9M	A5.20
Hobart Brothers Co.	Hobart 335A	E6011	A5.1
	Hobart 335C	E6011	A5.1
	Hobart 418	E7018	A5.1
	Hobart 718	E7018/E7018-H4R	A5.1
	Hobart 718 MC	E7018-1H4R	A5.1
	Fabco RXR	E70T-1	A5.20
	Fabco TR70	E70T-1	A5.20
	ECEL-ARC 71	E71T-1	A5.20
	TM 771	E 7/T-1 H8	A 5.20
The Lincoln Electric Co.	Easy-Arc 6011C	E 6011	A5.1
	Easy-Arc 7018AC	E7018-H8	A5.1
	Easy-Arc 7018MR	E7018-H4R, E7018	A5.1
.	Fleetweld 5P	E6010	A5.1
	Fleetweld 5P+	E6010	A5.1
	Fleetweld 35 LS	E6011	A5.1
	Jetweld 78 MR	E7018	A5.1
	Jetweld LH-70	E7018/E7018 H4R	A5.1
	Jetweld LH-73	E7018-H8	A5.1
	Jetweld LH-78 MR	E7018/E7018-1H4R	A5.1
	Jetweld LH-3800	E7028	A5.1
	Super Arc L-50 Electrode	ER70S3	A5.18
	Outershield 70	E70T-1	A5.20
	Outershield 71	E71T-1H8	A5.20
	Outershield 71M	E71T-H16	A5.20
	Lincolnweld 780 Flux/L61 Wire	F7A2-EM12K-H8	A5.17
	Lincolnweld 860 Flux/L61 Wire	F7A2-EM12K-H8	A5.17
	Lincolnweld 960 Flux/L61Wire	F7A2-EM12K-H8	A5.17
	Metalshield MC-710XL	E70C-6M	A5.20
	Superarc L-56 Electrode	ER 70S6	A5.18
Murex Welding Products	Murex 6010	E6010	A5.1
	Murex 6011C	E6011	A5.1
	Murex 7018MR	E7018-H4R, E7018	A5.1
Teledyne/McKay	McKay 7018XLM	E7018-H4	A5.1

List No. 9 (Cont.)

**FILLER METAL FOR EXPOSED BARE APPLICATION OF
M270M (M270) A709M (A709) GR 345W (50W) STEEL**

MANUFACTURER	TRADE NAME	AWS CLASSIFICATION	AWS SPECIFICATION
ESAB Welding & Cutting Products	Dualshield 8100-W	E81T1-W2/W2M	A5.29
	ATOM Arc	E8018-C3	A5.5
Lincoln Electric Co.	AXXX 10 Flux/L61 Electrode	F7A4-EM12K-Nil H8	A5.23
	Jet-LH 8018-C3 MR	E8018-C3	A5.5
	Lincolnweld 860 Flux/L-75 Wire	F7A2-Eni1K-Ni1-H8	A5.23
	Outershield 81N 1-H	E81T1-NiM-H8	A5.29
	Excalibur 8018-C3 MR	E 8018 – C3 H 4R	A 5.5
	Excalibur 9018 M MR	E 9018 – H 4R, E 9018 M	A 5.5

**FILLER METAL FOR HIGH PERFORMANCE STEEL
HPS 70 W (HPS 485 W) STEEL ONLY**

MANUFACTURER	TRADE NAME	AWS CLASSIFICATION	AWS SPECIFICATION
ESAB Welding & Cutting Products	Atom Arc 8018	E8018-C3 H4R	A5.5
ESAB Welding & Cutting Products	Dualshield 8100-W	E81T1-W2/W2M	A5.29
Hobart Brothers	TM 771	E 71T-12-JH8	A 5.20
Lincoln Electric Co.	Lincoln Weld Mill 800 HPiN Flux/LA-85 Electrode (LNS165)	F9A4-ENi5-G-H2	A 5.23
	JET-LH 8018 C3	E8018 C3 H4R	A 5.5

List No. 10

(10) APPROVED EPOXY COATINGS – (Physical Lab)

The following epoxy coatings for reinforcing steel are approved:

Aervoe-Pacific Co., Inc. Gardnerville, Nevada	Aervoe 156 Green Rebar
AKZO Powder Coatings	Resicoat 500607 Resicoat 500620* Interpon HD-34 Green HR046G Green HK007U
Valspar North Kansas City, MO	720-A-009 Greenbar
Dupont Powder Coating Houston, TX	Nap-Gard 7-2719 Nap-Gard 7-2709
3-M Co., St. Paul, MN	ScotchKote 413
*When applied to blasted and chromate pretreated steel.	
**Limited approval for use only on wire mesh and post fabricated reinforcing steel	

(11) FIBER MULCH, WOOD CELLULOSE - ANNUAL CHECK
- (Landscape Development)

The following fiber mulches are currently approved and may be accepted on visual inspection:

Product	Manufacturer	Phone Number
1000 2000 Enviro-Blend	Profile Products P. O. Box 652 219 Simpson Street Conover, NC 28613	(800) 366-1180 (828) 327-6670
Country Boy Hydro Spray Terra Mulch Soil Cover Conwed Cellulose	Profile Products 60 Dave Crockett Road Attn: Mr. Gary Bower Limestone, TN 37681	(828) 327-4165
Applegate Premium	Applegate Insulation Cumberland Valley Business Park, Bldg. #53 1050 Superior Ave. Chambersburg, PA 17201 Attn: Mr. Ray Mickelonis	(800) 366-1180 (888) 327-6670
Precision Cellulose Mulch & Grow	Precision Fibers 145 Factory Street Attn: Fred Vincelli Ronda, North Carolina 28670	(866) 476-3278 (336) 527-4140
Second Nature Wood Fiber Blend Second Nature (Paper)	Central 1525 Waynesburg Drive, S.E. Attn: Mr. Lloyd Depering Canton, Ohio 44707	(330) 452-2630
Matt's 100% Wood Fiber	Mat Norwood LLC P.O. Box 578 747 Harrisburg Drive SW Attn: Jim Sandherr Lenoir, NC 28645	(888) 477-3028
All-Weather Mulch	All Weather Insulation 19 West Industrial Drive Attn: Russell Buckman Springfield, KY 40069	(800) 467-0211
Fiber mulches will be accepted only if bagged and shipped from the locations listed above.		

**(12) CERTIFICATE OF COMPLIANCE AND GUARANTEE - GUARDRAIL MATERIALS -
(Structures)**

In accordance with Sec. 204.18 herein, the following guardrail Erectors have submitted annual certificates of compliance and guarantee:

Guardrail, Etc., Inc. (Maryland)
Guardrail of Roanoke Inc.
Kirk Neal, Inc.
L.S. Lee, Inc.
Long Fence
Makco, Inc.
Mid Park, Inc.

Mountain Industries, Inc.
Penn Line Services, Inc.
Transportation Safety Contractors, Inc.
Webster & Webster Co.

The following guardrail Manufacturers have submitted annual certificates of compliance and guarantee:

Elderlee, Inc.
Highway Safety Corp.
Gregory Galvanizing & Metal
R. G. Steel Corp
Trinity Industries, Inc

These certificates have been reviewed and are on file at the office of the State Materials Engineer. For the period January 1, 2006 through December 31, 2006, steel material supplied by the above companies is to be accepted by visual inspection.

QUALIFIED LOW VOLATILE ORGANIC COMPOUND**(13) **ZINC RICH PAINT SYSTEMS LIST** – (Chemistry Lab)
(SYSTEM B)**

Note: Effective with the March 2005 advertisement, all approved paint systems must not exceed the 2.8 lb/gal/ VOC as applied requirements, except zinc-rich primers, which must not exceed the 3.5 lb/gal requirement as applied. Also paints manufactured after January 1, 2005 must meet these requirements if supplied to or applied in the Northern Virginia VOC Emission Control Area. This consists of the counties of Arlington, Fairfax, Loudoun, Prince William and Stafford, and the cities Alexandria, Fairfax, Falls Church, Manassas, and Manassas Park City.

The below listed systems have been prequalified for use, as listed and must be certified for each lot. Although these products are approved for use, no statement is made about relative ease of application. The user needs to determine the particular application techniques, equipment, etc., that are needed. In all cases, Manufacturers' recommendations should be followed as to application requirements and temperature limitations. If there is a conflict between Manufacturer's recommendation and specification requirement, then, with the approval of the Engineer the Manufacturer's recommendation will rule. The Manufacturer is required to have a technical service representative on hand to assist the Contractor the first time that these products are used by the Contractor. Material exceeding stated range is to be removed and reapplied unless otherwise allowed by the Engineer. No two or more component material is to be mixed in less than packaged quantities and shall be mixed with power agitators.

GROUP I

Primers in this group shall be used to paint new steel, including contact, bolted and faying surfaces and may be used to paint existing steel.

System Type: Solvent based Inorganic Zinc primer, acrylic intermediate and topcoats, Organic Zinc Epoxy Repair Primer

MANUFACTURER - Carbozinc Paint Co. – St. Louis, MO (804) 559-3237 / (314) 644-1000				
COAT	PAINT	COLOR	DRY FILM THICKNESS (mils)	VOC lb/gal
Primer(s)	CZ11HS ASTM II	Green	3.0-6.0	2.40
Intermediate(w)	3350	White	2.0-3.0	0.99
Topcoat(w)	3350	As Specified	2.0-3.0	0.99
Primer Repair(s)	Carbozinc 859 ASTM II		3.0-5.0	2.71
Approval date 8/89	Review date 12/06			

COAT	PAINT	COLOR	DRY FILM THICKNESS (mils)	VOC lb/gal
Primer(s)	CZ11VOC ASTM II	Green	3.0-6.0	3.20
Intermediate(w)	3350	White	2.0-3.0	0.99
Topcoat(w)	3350	As Specified	2.0-3.0	0.99
Primer Repair(s)	Carbozinc 859 ASTM II		3.0-5.0	2.71
Approval date 7/97	Review date 12/06			

MANUFACTURER – Elite Coatings – Gordon, GA – (800)-659-0908

COAT	PAINT	COLOR	DRY FILM THICKNESS (mils)	VOC lb/gal
Primer(s)	P-159	Gray	3.0-6.0	2.8
Intermediate(w)	Water Guard (W-112)	White	3.0 min.	0.65
Topcoat(w)	Water Guard Series	As Specified	3.0 min.	0.93
Primer Repair(s)	P-300		3.0	2.62
Approval date 7/93	Review date 12/06			

COAT	PAINT	COLOR	DRY FILM THICKNESS (mils)	VOC lb/gal
Primer(s)	P-139	Gray	3.0-6.0	3.46
Intermediate(w)	Water Guard (W-112)	White	3.0 min.	0.65
Topcoat(w)	Water Guard Series	As Specified	3.0 min.	0.93
Primer Repair(s)	P-281		3.0-5.0	3.34
Approval date 8/89	Review date 12/06			

COAT	PAINT	COLOR	DRY FILM THICKNESS (mils)	VOC lb/gal
Primer(s)	Elite 1312	Gray	3.0-6.0	3.4
Intermediate(w)	Elite 2012	White	3.0 min.	0.82
Topcoat(w)	Elite 2012	As Specified	2.0-3.0	0.82
Primer Repair(s)	Elite 305		2.5	3.25
Approval date 2/97	Review date 12/06			

MANUFACTURER - Sherwin-Williams – Richmond, VA (804) 659-9443				
COAT	PAINT	COLOR	DRY FILM THICKNESS (mils)	VOC lb/gal
Primer(s)	Zinc Clad II Plus	Gray-Green	3.0-6.0	2.60
Intermediate(w)	DTM Acrylic	White	1.5 min.	1.73
Topcoat(w)	DTM Acrylic	As Specified	1.5 min.	1.73
Primer Repair(s)	Zinc Clad IV		3.0-5.0	2.57
Approval date 9/94	Review date 12/06			

COAT	PAINT	COLOR	DRY FILM THICKNESS (mils)	VOC lb/gal
Primer(s)	Zinc Clad II LV	Gray-Green	3.0-6.0	3.20
Intermediate(w)	DTM Acrylic	White	2.5-4.0	1.73
Topcoat(w)	DTM Acrylic	As Specified	2.5-4.0	1.73
Primer Repair(s)	Zinc Clad IV		3.0-5.0	2.57
Approval date 6/04	Review date 12/06			

COAT	PAINT	COLOR	DRY FILM THICKNESS (mils)	VOC lb/gal
Primer(s)	*Zinc Clad II HS	Gray	3.0-6.0	2.60
Intermediate(w)	A-100 Flat A-6 series	White	1.5 min.	0.48
Topcoat(w)	A-100 Flat A-6 series	As Specified	1.5 min.	0.48
Primer Repair(s)	Zinc Clad IV		3.0-5.0	2.57
Approval date 9/94	Review date 12/06			

COAT	PAINT	COLOR	DRY FILM THICKNESS (mils)	VOC lb/gal
Primer(s)	*Zinc Clad II HS	Gray-Green	2.0-4.0	2.60
Intermediate(w)	DTM Acrylic	White	1.5 min.	1.73
Topcoat(w)	DTM Acrylic	As Specified	1.5 min.	1.73
Primer Repair	Zinc Clad IV		3.0-5.0	2.57
Approval date 9/94	Review date 12/06			

***Note: The Zinc Clad II HS primer in the above two systems has been discontinued. They will remain on this list only for existing projects to be completed. The Zinc Clad Plus or the Zinc Clad LV are replacements.**

System Type: Water based inorganic zinc primer, acrylic intermediate and topcoats, organic zinc epoxy repair primer.

<u>MANUFACTURER - Sherwin-Williams – Richmond, VA (804) 659-9443</u>				
COAT	PAINT	COLOR	DRY FILM THICKNESS (mils)	VOC lb/gal
Primer(s)	Zinc Clad XI	Gray	3.0-5.0	0.00
Intermediate(w)	A-100 Flat A-6 series	White	1.5 min.	0.48
Topcoat(w)	A-100 Flat A-6 series	As Specified	1.5 min.	0.48
Primer Repair(s)	Zinc Clad IV			2.57
Approval date 2/94	Review date 12/06			

System Type: Solvent based Inorganic Zinc primer, aluminum epoxy urethane mastic intermediate, acrylic aliphatic polyurethane topcoat, Organic Zinc Epoxy Repair Primer

<u>MANUFACTURER - CarboLine Paint Co. – St. Louis, MO (804) 559-3237 / (314) 644-1000</u>				
COAT	PAINT	COLOR	DRY FILM THICKNESS (mils)	VOC lb/gal
Primer(s)	CZ11HS ASTM II	Green	3.0-6.0	2.40
Intermediate(s)	Carbomastic 242	Gray	3.0-5.0	2.73
Topcoat(s)	Carbothane 134 HG or Carbothane 134 HS	As Specified	2.0-4.0	2.17
Primer Repair(s)	Carbozinc 859 ASTM II	As Specified	2.0-4.0	2.40
Approval date 1/98	Review date 12/06		3.0-5.0	2.71

Note: this system may be applied at temperatures as low as 35°F. Contact manufacturer for specific requirements.

System Type: Solvent based Inorganic Zinc primer, Epoxy Intermediate, acrylic aliphatic urethane topcoat, organic zinc epoxy repair

<u>MANUFACTURER - CarboLine Paint Co. – St. Louis, MO (804) 559-3237 / (314) 644-1000</u>				
COAT	PAINT	COLOR	DRY FILM THICKNESS (mils)	VOC lb/gal
Primer(s)	CZ 12 VOC	Green	3.0-5.0	3.2
Intermediate(s)	CarboGuard 888	Gray	3.0-5.0	2.7
Topcoat(s)	Carbothane 134 HG	As Specified	2.0-2.5	2.2
Primer Repair(s)	Carbozinc 859		3.0-5.0	2.71
Approval date 1/02		Review date 12/06		

Note: this system may be applied at temperatures as low as 35°F. Contact manufacturer for specific requirements.

<u>MANUFACTURER – ICI Devoe, Roanoke, VA (540) 798-1885</u>				
COAT	PAINT	COLOR	DRY FILM THICKNESS (mils)	VOC lb/gal
Primer(s)	Catha-Coat 302HA	Green	2.0-4.0	2.7
Intermediate(s)	Bar Rust 235	Off White	4.0-8.0	2.4
Topcoat(s)	Devthane 379 Series	As Specified	2.0-3.0	2.6
Primer Repair (s)	Catha-Coat 302HA	Green	2.0-4.0	2.7
Approval Date 6/01		Review date 12/06		

Note: this system may be applied at temperatures as low as 40°F. Contact manufacturer for specific requirements.

<u>MANUFACTURER – International Paint, Houston, TX (800) 589-1267</u>				
COAT	PAINT	COLOR	DRY FILM THICKNESS (mils)	VOC lb/gal
Primer(s)	Interzinc 22 HS	Reddish gray	2.5-3.0	2.8
Intermediate(s)	Intergard 475 HS	White	5.0-8.0	1.76
Topcoat(s)	Interthane 990 HS	As specified	2.0-3.0	2.73
Primer Repair (s)	Interzinc 52		3.0	2.8
Approval Date 9/01		Review date 12/06		

Note: this system may be applied at temperatures as low as 40°F. Contact manufacturer for specific requirements.

MANUFACTURER – Elite Coatings – Gordon, GA – (800)-659-0908

COAT	PAINT	COLOR	DRY FILM THICKNESS (mils)	VOC lb/gal
Primer(s)	P-139	Gray	3.0-6.0	3.46
Intermediate(s)	P-192 Polyrox	White	4.0-5.0	2.68
Topcoat(s)	Shinethane HS	As specified	2.0-4.0	<2.8
Primer Repair (s)	P-281	Green-Gray	3.0-5.0	3.34
Approval Date	1/02	Review date	12/06	

Note: this system may be applied at temperatures as low as 35°F. Contact manufacturer for specific requirements.

System Type: Solvent based Inorganic Zinc Primer, Epoxy Intermediate, Aliphatic Polyurethane Topcoat, Organic Epoxy Zinc Repair Primer

MANUFACTURER - Ameron International (800) 643-0135

COAT	PAINT	COLOR	DRY FILM THICKNESS (mils)	VOC lb/gal
Primer(s)	Dimetcote 9 HS	Green	3-4	2.7
Intermediate(s)	Amercoat 385	White	4-6	2.3
Topcoat(s)	Amercoat 450 HS	As Specified	2 min.	2.4
Primer Repair(s)	Amercoat 68 HS		3.0	2.4
Approval Date	1/00	Review date	12/06	

Note: this system may be applied at temperatures as low as 40°F. Contact manufacturer for specific requirements.

GROUP IA

Primers in this group shall only be used to paint existing steel and may be used on contact, bolted and faying surfaces. This is due to their slip coefficient ratings.

System Type: Zinc-rich single component moisture-cure polyurethane primer, Micaceous Iron Oxide filled single component moisture-cure polyurethane intermediate and topcoats.

MANUFACTURER – Sherwin Williams – Richmond, VA (804) 659-9443				
COAT	PAINT	COLOR	DRY FILM THICKNESS (mils)	VOC lb/gal
Primer(s)	Corothane I Galvapac Zinc B65G11 (zinc dust included) or Corothane I Galvapac Zinc B65G10 with B69D210 (zinc dust) – two components mixed in field.	Green	3.0-4.0	3.5
Intermediate(s)	Corothane I Ironox B B65A11	Reddish/Gray	3.0-5.0	2.8
Topcoat(s)	Corothane I Ironox A HS B65A55	Green	2.5-3.5	2.43
Primer Repair(s)	Corothane I Galvapac Zinc B65G11 (zinc dust included) or Corothane I Galvapac Zinc B65G10 with B69D210 (zinc dust) – two components mixed in field.		3.0-4.0	3.5
Approval Date 8/01		Review date 12/06		

Note: this system may be applied at temperatures as low as 35°F. Contact manufacturer for specific requirements.

<u>MANUFACTURER – Sherwin Williams – Richmond, VA (804) 659-9443</u>				
COAT	PAINT	COLOR	DRY FILM THICKNESS (mils)	VOC lb/gal
Primer(s)	Corothane I Galvapac Zinc B65G11 (zinc dust included) or Corothane I Galvapac Zinc B65G10 with B69D210 (zinc dust) – two components mixed in field.	Gray	3.0-4.0	2.8
Topcoat(s)	Fast Clad™ Urethane	As Specified	6-9	2.4
Primer Repair(s)	Corothane I Galvapac Zinc B65G11 (zinc dust included) Or Corothane I Galvapac Zinc B65G10 with B69D210 (zinc dust) – two components mixed in field.		3.0-4.0	2.8
Approval Date	6/98	Review date 12/06		

Note: this system may be applied at temperatures as low as 35°F. Contact manufacturer for specific requirements.

System Type: Organic zinc primer, epoxy intermediate, acrylic polyurethane topcoat, organic zinc repair primer

<u>MANUFACTURER – Sherwin Williams – Richmond, VA (804) 659-9443</u>				
COAT	PAINT	COLOR	DRY FILM THICKNESS (mils)	VOC lb/gal
Primer(s)	Zinc Clad III HS	Gray-Green	3.0-5.0	2.8
Intermediate(s)	Macropoxy 646	White	5.0-10.0	2.0
Topcoat(s)	Acrolon 218 HS	As Specified	3.0-6.0	2.3
Primer Repair(s)	Zinc Clad III HS			
Approval Date	8/01	Review date 12/06		

GROUP II

Primers in this group shall only be used for existing structures that require no painting of contact, bolted or faying surfaces. This is due to their slip coefficient rating.

System Type: Organic Zinc Primer, Acrylic Intermediate and Topcoat, Organic Epoxy Zinc Repair Primer

<u>MANUFACTURER – Elite Coatings – Gordon, GA – (800)-659-0908</u>				
COAT	PAINT	COLOR	DRY FILM THICKNESS (mils)	VOC lb/gal
Primer(s)	P-300	Gray	3.5-6.0	2.62
Intermediate(w)	WaterGuard (W-112)	White	3.0 min.	0.65
Topcoat(w)	WaterGuard Series	As Specified	2.0 min.	0.93
Primer Repair(s)	P-300		3.0	2.62
Approval Date	9/94	Review date 12/06		

System Type: Organic Zinc Primer, epoxy intermediate, aliphatic acrylic urethane topcoat, organic zinc repair primer

<u>MANUFACTURER – Elite Coatings – Gordon, GA – (800)-659-0908</u>				
COAT	PAINT	COLOR	DRY FILM THICKNESS (mils)	VOC lb/gal
Primer(s)	P-300	Gray	3.5-6.0	2.62
Intermediate(s)	P-192 Polyrox	White	4.0-5.0	2.68
Topcoat(s)	Shinethane HS	As Specified	2.0-4.0	<2.8
Primer Repair(s)	P-300		3.0	2.62
Approval Date	6/98	Review date 12/06		

Note: this system may be applied at temperatures as low as 35°F. Contact manufacturer for specific requirements.

<u>MANUFACTURER – International Paint, LLC – Houston, TX (800) 589-1267</u>				
COAT	PAINT	COLOR	DRY FILM THICKNESS (mils)	VOC lb/gal
Primer(s)	Interzinc 52	Blue, Gray, Green	2.0-3.0	2.8
Intermediate (s)	Intergard 475HS	Light Gray	4.0-8.0	1.46
Topcoat (s)	Interfine 979	As specified	4.0-6.0	1.82
Primer Repair (s)	Interzinc 52			2.8
Approval Date	8/05	Review date 12/06		

The top coat shall be of sufficient dry film thickness to completely cover and hide the intermediate coat and produce a uniform color and appearance.

Note: (w) or (s) indicates water or solvent-based material.

List No. 14

(14) APPROVED PIPE GASKETS AND COATINGS – (Physical Lab)

Preformed Plastic or Mastic Gaskets.

There are several proprietary materials that have been evaluated to see if they would perform satisfactorily. These materials are:

Brand Name	Manufacturer
Butyl-Tite Conforms to ASTM C990, AASTHO M 198, and Federal Specification SS-S-210	MultiSeal, Inc. Evansville, Indiana
Clippership Bituminous Joint Compound (MP-52) Asbestos free trowel mastic	Seaboard Asphalt 3601 Fairfield Road Baltimore, MD 800-536-0332
Con Seal (CS101, CS102, CS202, CS208, CS302) CS-102, CS 202 and CS 302 conform to the requirements of ASTM C 990 for butyl rubber sealants.	Concrete Sealants, Inc. 8917 S. Palmer Road New Carlisle, OH 937-845-8776
E-Z Stick Conforms to the requirements of ASTM C 990 for butyl rubber sealants.	Concrete Products Supply Co. Fort Wayne, IN (Roanoke, VA)
Macwrap Conforms to the requirements of ASTM C 877 Type II	Mar-Mac MFG. Co. Inc McBee, SC.
Seal Wrap Meets the same requirements as Macwrap but does not have the steel tie straps.	Mar-Mac MFG. Co. Inc. McBee, S.C. 843-335-8211
RV 30 Conforms to the requirements of ASTM C 990 R-427-N	Ru Van, Inc. Evansville, IN 812-464-2488
Meets the requirements of ASTM D 1056, Type 2A: These materials may be accepted on brand name.	Press-Seal Gasket Corporation 6935 Lincoln Pkwy Fort Wayne, IN 260-436-0521

List No.14 (Cont.)

"Other Protective Coating Materials" may be used to coat conduit. At this time, the following materials have been evaluated and approved for use.

Brand Name	Manufacturer
Bitumastic 50, Bitumastic 300 M	Koppers Company Pittsburgh, PA 412-227-2700
Cooper Black #750	Coopers Creek Chemical Corp. West Conshohocken, PA 610-828-0375

Any conduit that is pre-coated with a bonded PVC material (Approx. 40 mils) is also acceptable.

These materials may be accepted on brand name; however, it is cautioned, directions on the container should be followed explicitly, particularly with regard to coating thickness, number of coats and dry time.

Other Approved Gaskets

R-427-N (1" x 1" closed cell neoprene gasket for precast box culverts)	Press-Seal Gasket Corp. Fort Wayne, Indiana
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(15) APPROVED STUD SHEAR CONNECTORS – (Structures)

The Manufacturers listed below have qualified their stud shear connectors in accordance with Sec. 232(h) of the Virginia Department of Transportation Road and Bridge Specifications. Effective immediately, these studs may be used on Virginia construction projects without evidence of test or certification.

Manufacturer	Division or Trade Name	Size
Cox Industries	Cox	3/8, 1/2, 5/8, 3/4, 7/8
Nelson Stud Welding	Nelson	1/4, 3/8, 1/2, 5/8, 3/4, 7/8
Stud Welding Associates, Inc.	Ultra-Arc	1/4, 3/8, 1/2, 5/8, 3/4, 7/8
Tru-Fit Screw Products, Corp.	Tru-Weld	3/8, 1/2, 5/8, 3/4, 7/8

List No. 16

**(16) APPROVED SURFACE MOUNTED FLEXIBLE POST DELINEATORS –
(Chemistry Lab)**

Trade Name	Manufacturer	Local Representative
SH 236 SMA WS (approved NTPEP# TTC-95S-9)	Safe-Hit Corporation 35 East Wacker Drive, Suite 1100	Korman Signs, Inc. Richmond, VA 804.262.6050
Dura-Post (approved NTPEP# TTC-95S-8)	Chicago, IL 60601 312.467.6750	
Channelizer SDCF303601MB (Approved 9/97 NTPEP #TTC-96S-5)	Carsonite International 10 Bob Gifford Blvd. Early Branch, SC 29916 803-943-9115	Carsonite International Paul R. DuBay 605 Bob Gifford Blvd. Early Branch, SC 29916
Tra-Flex 36"	Arkan Plastics 136 SE 20 th Street Great Bend, KS 67530 620-792-3794	804-778-7775 Protection Services 3027 Christian Ave Roanoke, VA 24012 540-362-2777
Flex Stake TM 750 series (approved NTPEP# TTC-96S-3)	Flexstake Inc. 2150 Andrea Lane Fort Myers, FL 33912 800-348-9839	RGA Inc. 454 Southlake Blvd. Richmond, VA 23236 804-794-1592
FG300UR (Approved 10/30/98 NTPEP #TTC-98W-3)	Bunzl Extrusion Washington, Inc Tacoma Divsion 3110 70 th Avenue East Tacoma, WA 98424 253-284-8000	Highway Safety Supply P. O. Box 128 Brandy Station, VA 22714 540-825-2675
	Formerly Davidson Plastics Corp. and/or Bunzl Extrusion Tacoma	
D36F (Approved 3/25/2003 NTPEP #TTC-98S-12)	Impact Recovery Systems P.O. Box 12637 246 West Josephine St. San Antonio, TX 78212 210-736-4477	

(17) QUALIFIED PREFORMED TAPE LIST – (Chemistry Lab)

The following products have been prequalified, but the manufacturer must supply certification for each lot.

Manufacturer's instructions for installation shall be followed both as to method and temperature of application to pavement requirements. Primer/sealers may be required; the manufacturer's specific recommendations shall be followed, and the cost of the primer/sealer shall be included in the bid price or unit price. Although approved for use, not all products may be equal in all characteristics. Contractor needs to determine the best product for his intended use.

Type	Name	Manufacturer	Approval No.
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Type B
Class IV

These tapes may be used for stop lines, crosswalks, messages and arrows only:

White		
420	3M Manufacturing	STR-91-77
Series 1000	Brite-Line Technologies	STR-96-137-PA
ATM 300	Advance Traffic Markings	STR-98-TX-510

Yellow		
ATM 300	Advance Traffic Markings	STR-98-TX-511

Class VI

These tapes may be used for edge lines, center and skip lines, messages and arrows only:

White		
380I	3M Manufacturing	STR-96-160-PA
3801 ES (Extended Season)	3M Manufacturing	MS 13965
Stamark 860	3M Manufacturing	MS 11860

Yellow		
381I lead free	3M Manufacturing	STR-96-161-PA
3811 ES (Extended Season)	3M Manufacturing	MS 13966
Stamark 861	3M Manufacturing	MS 11861

For center and skip lines only:

380I-5 Contrast white	3M Manufacturing	MS 11107
381I-5 Contrast yellow	3M Manufacturing	MS 11108

QUALIFIED PREFORMED TAPE LIST

The following products have been prequalified, but the manufacturer must supply certification for each lot.

Type	Name	Manufacturer	Approval No.
Type D Class I			
	Scotchlite 620™ white	3M Manufacturing	STR-95-35
	Scotchlite 621™ yellow lead free	3M Manufacturing	STR-95-36
	Scotchlite 750™ white	3M Manufacturing	PMM(2000PA)-5
	Scotchlite 751™ yellow lead free	3M Manufacturing	PMM(2000PA)-6
	ATM 200 white	Advance Traffic Markings	STR-98-TX-507
	ATM 200 yellow	Advance Traffic Markings	STR-98-TX-508
	ATM 120 white	Advance Traffic Markings	STR-98-TX-505
	ATM 121 yellow	Advance Traffic Markings	STR-98-TX-506
	ATM 1200W white	Advance Traffic Markings	PMM-02-10-MS
	ATM 1200Y yellow	Advance Traffic Markings	PMM-02-11-MS
	ATM 2000W white	Advance Traffic Markings	PMM-02-12-MS
	ATM 2000Y yellow	Advance Traffic Markings	PMM-02-13-MS
	Series 100 white	Brite-Line Technologies	STR-97-150-MN
	Series 100 yellow lead free	Brite-Line Technologies	STR-97-149-MN
	RW-140 white	Trelleborg	PMM(2000PA)-187
	RY-140 yellow	Trelleborg	PMM(2000PA)-188
Type D Class II			
	Scotchlite 750™ white	3M Manufacturing	PMM(2000PA)-5
	Scotchlite 751™ yellow lead free	3M Manufacturing	PMM(2000PA)-6
	ATM 200 white	Advance Traffic Markings	STR-98-TX-507
	Series 100 white	Brite-Line Technologies	STR-97-150-MN
	ATM 1200W white	Advance Traffic Markings	PMM-02-10-MS
	ATM 1200Y yellow	Advance Traffic Markings	PMM-02-11-MS
	ATM 2000W white	Advance Traffic Markings	PMM-02-12-MS
	ATM 2000Y yellow	Advance Traffic Markings	PMM-02-13-MS
Type D Class III			
	Scotchlite 750™ white	3M Manufacturing	PMM(2000PA)-5
	Scotchlite 751™ yellow lead free	3M Manufacturing	PMM(2000PA)-6
Type E			
	Scotchlite™ Series A145	3M Manufacturing	STR-93-111
	ATM 280 black	Advance Traffic Markings	STR-98-TX-509
	Deltaline BTR	Brite-Line Technologies	STR-97-83-MN
	RB-140 black	Trelleborg	PMM-01-UT-28

(18) ABRASIVES – (Chemistry Lab)

EXPENDABLE ABRASIVES

- | | |
|--|-----------------------|
| 1. Starblast XL – DuPont | Phone: (800) 441-9487 |
| 2. Black Blast -- Virginia Materials and Supplies | Phone: (757) 855-0155 |
| 3. GMA ROM 30 x 60 Garnet – Barton Mines Company | Phone: (800) 792-5462 |
| 4. Crystalgrit -- Virginia Materials and Supplies | Phone: (757) 855-0155 |
| 5. Glass Jet – Virginia Materials and Supplies | Phone: (757) 855-0155 |
| 6. Western's Bengal Bay Garnet – Virginia Materials and Supplies | Phone: (757) 855-0155 |
| 7. Reed Minerals Black Beauty® 1240 from Moundsville WV plant | Phone: (717) 763-4200 |
| 8. Reed Minerals Black Beauty® 2040 from Moundsville WV plant | Phone: (717) 763-4200 |
| 9. Reed Minerals Black Beauty® 4490 from Moundsville WV plant | Phone: (717) 763-4200 |

(19) APPROVED LIST OF ABSORPTIVE SOUNDWALL COLOR COATINGS – (Structures)

The following color coating may be used on sound absorptive soundwall panels for the purpose of obtaining the specified color using brand names, provided manufacturing specifications are followed specifically.

Product	Manufacturer
Canyon Tone Stain	United Coatings
Cementrate	Harris Specialty Chemicals, Inc.
Cold-Flex Stain	Cold -Flex, Inc.
FX-430	Fox Industries
Nitocote Cementrate WB (Waterbased)	Harris Specialty Chemicals, Inc.
H&C Silicone Acrylic Concrete Stain	Sherwin Williams
Aquastain T-96	Tamms Industries, Inc.
Rainstopper Concrete Stain	Textured Coatings of America, Inc.
Tex*Cote 300 Bridge-Cote Smooth Coating	Textured Coatings of America, Inc.
Tex*Cote XL-70 Bridge-Cote Smooth Coating	Textured Coatings of America, Inc.

(20) APPROVED WATER BORNE LEAD FREE TRAFFIC PAINT – (Chemistry Lab)

<u>White</u>	<u>Manufacturer</u>	<u>Product No.</u>	<u>NTPEP Submittal No.</u>
Sherwin Williams		BP14016 BP14019 BP15652 BP15622 BP17312 BP17313 BP17316	STR-97-41-AL STR-97-44-AL STR-98-PA-135 STR-98-PA-150 PMM(2000PA)-170 PMM(2000PA)-171 PMM(2000PA)-174
Ennis Paint (formerly LaFarge Road Markings and Centerline)		CL-6000 CL-6004 CL-7018 CL-8210 CL-8214 CL-8216 CL-8218 CL-8220 CL-8222	STR-96-85-PA STR-96-68-PA STR-97-69-AL STR-98-PA-96 STR-98-PA-100 STR-98-PA-102 STR-98-PA-104 STR-98-PA-106 STR-98-PA-108
Ennis Paint (formerly LaFarge Road Markings and Linear Dynamics)		LD96-1002 LD96-1008 LD971001C LD981001 LD981002 LD981003 LD981004 LD981005	STR-96-85-PA STR-96-91-PA STR-97-138-AL STR-98-PA-158 STR-98-PA-159 STR-98-PA-160 STR-98-PA-161 STR-98-PA-162
Ennis Paint (formerly LaFarge Road Markings)		LRMOOWB-19 LRMOOWB-20	PMM(2000PA)-110 PMM(2000PA)-111
Ennis Paint		Douglas 303-98 Ennis EP200W13 Ennis EP200W14 Ennis EP200W16 EP415W03 EP415W04	STR-98-PA-214 STR-98-PA-17 STR-98-PA-18 STR-98-PA-20 PMM(2000PA)-61 PMM(2000PA)-62

List No. 20 (Cont.)

<u>Manufacturer</u>	<u>Product No.</u>	<u>NTPEP Submittal No.</u>
<u>Yellow</u>		
Sherwin Williams	BP-14021 BP15611 BP15623 BP17314	STR-97-46-AL STR-98-PA-139 STR-98-PA-151 PMM(2000PA)-172
Ennis Paint (formerly LaFarge Road Markings and Linear Dynamics)	LD961009 LD981009 LD981010	STR-96-92-PA STR-98-PA-165 STR-98-PA-166
Ennis Paint (formerly LaFarge Road Markings)	LRMOOWB-31	PMM(2000PA)-122
Aexcel	72Y-AO65	STR-96-148-PA
Ennis Paint	Douglas 306-98 Douglas 307-98 Ennis EP200Y-15 Ennis EP200Y-18 EP415Y03 EP415Y04 EP415Y05 EP415Y06	STR-98-PA-217 STR-98-PA-218 STR-98-PA-26 STR-98-PA-29 PMM(2000PA)-66 PMM(2000PA)-67 PMM(2000PA)-68 PMM(2000PA)-69

(21) QUALIFIED #14 ALUMINUM EPOXY MASTIC COATINGS – (Chemistry Lab)
(SYSTEM F)

Note: Effective with the February 2005 advertisement, all approved paint systems must not exceed the 2.8 lb/gal VOC requirement. Also paints manufactured after January 1, 2005 must meet these requirements if supplied to or applied in the Northern Virginia VOC Emission Control Area. This consists of the counties of Arlington, Fairfax, Loudoun, Prince William and Stafford, and the cities Alexandria, Fairfax, Falls Church, Manassas, and Manassas Park City.

These paints have been prequalified for use, but each lot must be certified.

Carboline	Carbomastic 15
Carboline	Carbomastic 90 Aluminum
RCB Coatings	Alumox H.S. Epoxy E-433
RCB Coatings	7510
International Protective Coatings	Interplus 670 HS AL
Sherwin Williams	Epoxy Mastic Aluminum II

The following epoxy mastic products are available in colors, and have been prequalified for use where colored topcoats are specified. Each lot must be certified.

Carboline	Carboguard 890
Carboline	Carboguard 890 LT
RCB Coatings	7508
Sherwin Williams	Macropoxy High Solids

The following urethane products may also be used for colored topcoats. Each lot must be certified.

Carboline	Carbothane 134 HG
Carboline	Carbothane 134 HS
RCB Coatings	Shinethane HS
International Protective Coatings	Interthane 990 HS
Sherwin Williams	Acrolon 218 HS

(22) PAVEMENT MARKERS – (Chemistry Lab)**SNOW PLOWABLE RAISED PAVEMENT MARKERS**

Manufacturer	Casting Model No.	Reflector Description	Casting Adhesive	Reflector Adhesive
Avery Dennison (formerly Stimsonite)	98 (note 1)	940 (note 2)	Lord Thermoset EP-87 or AASHTO-M237, Type IV	Liquid Nails – 602
Avery Dennison (formerly Stimsonite)	101	944 Ray-O-Lite 2004 Ray-O-Lite 2004S 3M 190	Lord Thermoset EP-87 or AASHTO-M237, Type IV (note 3)	Liquid Nails – 602 3M-LN602
Accent Stripe, Inc. NTPEP RPM-99OH-5	Northstar 41	Ray-O-Lite 2004 Ray-O-Lite 2004S 3M 190	Lumiline SMA or AASHTO-M237, Type IV	Liquid Nails – 602 3M-LN602
Nightline	B-400	Ray-O-Lite 2004 Ray-O-Lite 2004S 3M 190	Poly-Carb or Epoplex MA 50 or AASHTO-M237, Type IV	Liquid Nails – 602 3M-LN602
Hallen NTPEP RPM-2000OH-3	H-1010 HP H-960 HP	Ray-O-Lite 2004 Ray-O-Lite 2004S 3M 190	AASHTO-M237, Type IV	Liquid Nails – 602 3M-LN602
Ray-O-Lite (Pac-Tec)	Snow-Lite 100	Ray-O-Lite 2004 Ray-O-Lite 2004S 3M 190	Epoplex MA 50 Slocum Type M-397	BK0246-01 or Liquid Nails – 602 3M-LN602

NOTES:

Note 1: The Model 98 has been discontinued. The 940 reflector can be used as a replacement in existing Model 98 castings. The Model 98 has been replaced with the approved castings listed below.

Note 2: All reflectors are approved for use in any casting in which they fit.

Note 3: Lord Thermostat EP-87 formerly Epoxy #2203.

TEMPORARY PAVEMENT MARKERS

Manufacturer	Marker No.	Size	Adhesive
Avery Dennison (formerly Stimsonite)	88	4" x 4"	2202 Bituminous or AASHTO-M237, Type II
Avery Dennison (formerly Stimsonite)	911	4" x 4"	2202 Bituminous or AASHTO-M237, Type II
Avery Dennison (formerly Stimsonite)	948	2" x 4"	2202 Bituminous or AASHTO-M237, Type II
Ray-O-Lite	"Standard" Types – B, D, DR	4" x 4"	Bitumen Adhesive
Ray-O-Lite	2004, 2004S Types – B, C, D, DR, G, H, K, X, Z	2" x 4"	Bitumen Adhesive
Ray-O-Lite	Model AA Types – B, C, D, DR, G, H, K, X, Z	4" x 4"	Bitumen Adhesive
Ray-O-Lite	Model AA-ARC II Types – B, C, D, DR, G, H, K, X, Z	4" x 4"	Bitumen Adhesive
3M	290 (White) 291 (Yellow)	3.5" x 4" 3.5" x 4"	Bitumen Adhesive
Bunzl Extrusion Washington, Inc. – Tacoma Division	DAPCO RPM	4" x 4"	Bitumen Adhesive

Formerly Davidson Plastics
Corporation and/or Bunzl Extrusion
Tacoma

NOTES:

RECESSED PAVEMENT MARKERS

Manufacturer	Marker No.	Size	Adhesive
Ray-O-Lite	2004, 2004S Types – B, C, D, DR, G, H, K, X, Z	For 4" wide slots/grooves	EP-326 Epoxy
Avery Dennison (formerly Stimsonite)	948	For 4.5" wide slots/grooves	2202 Bitumen or AASHTO-M237, Type II
Avery Dennison (formerly Stimsonite)	944SB	For 4" wide slots/grooves	2201 Epoxy or AASHTO-M237, Type II

NOTES:

(23) DELINEATORS – (Chemistry Lab)

<u>GUARDRAIL DELINEATORS</u>		
<u>Manufacturer</u>	<u>Model No.</u>	<u>Adhesive Part No.</u>
Bunzl Extrusion Washington, Inc. – Tacoma Division Formerly Davidson Plastics Corporation and/or Bunzl Extrusion Tacoma	DAPCO I-Flex Guardrail Marker Davidson Straight Guardrail Reflector	DAPCO 795A
Duraflex	Railrider	H.B. Fuller SCO 252124
Eastern Metal/USA-Sign	661 (one-sided)* (note 1)	Dow Corning #795 Silicone or Courtlaulds PRC Rapid Seal
	662 (two-sided)* (note 1)	Dow Corning #795 Silicone or Courtlaulds PRC Rapid Seal
	631 (one-sided)* (note 1)	Dow Corning #795 Silicone or Courtlaulds PRC Rapid Seal
	632 (two-sided)* (note 1)	Dow Corning #795 Silicone or Courtlaulds PRC Rapid Seal
AKT Corporation	FT-1*(note 1)	Astro Optics Adhesive Cement
	FR-1	
	FB-33*	
Bunzl Extrusion, Inc.	PCBM-T9	Adhesive 795
	PCBM-9	DAPCO 795 A

NOTES:

Note 1: For use when guardrail has wooden support or blockout posts.

List No. 23(cont.)

<u>BARRIER DELINEATORS</u>		
<u>Manufacturer</u>	<u>Model No.</u>	<u>Adhesive Part No.</u>
Bunzl Extrusion Washington, Inc. – Tacoma Division Formerly Davidson Plastics Corporation and/or Bunzl Extrusion Tacoma	PCBM-9	DAPCO 795A
Duraflex	Flexx 2020	H.B.Fuller SCO 252124
Eastern Metal/USA-Sign	661 (one-sided)	Dow Corning #795 Silicone or Courtlaulds PRC Rapid Seal
	662 (two-sided)	Dow Corning #795 Silicone or Courtlaulds PRC Rapid Seal
	631 (one-sided)	Dow Corning #795 Silicone or Courtlaulds PRC Rapid Seal
	632 (two-sided)	Dow Corning #795 Silicone or Courtlaulds PRC Rapid Seal
AKT Corporation	FT-1	Astro Optics Adhesive Cement
	FB-33	
Bunzl Extrusion, Inc.	PCBM-T9	Adhesive 795

<u>ROAD EDGE DELINEATORS</u> (Single or Double Element Type)		
<u>Manufacturer</u>	<u>Model No.</u>	<u>Shape</u>
Avery Dennison (formerly Stimsonite)	975	3.25" Circular
AKT	18 (Delineator only) 181 (Delineator with Bracket)	3.25" Circular
Ray-O-Lite	RT-90	3.25" Circular
NOTES:		

(24) SILICA FUME AND OTHER APPROVED POZZOLANS – (Physical Lab)

Silica Fume

Manufacturer	Product
Addiment	Micro Silica Fume
Elkem	EMS 960
	EMS-965-20
	EMS-961
Euclid	Eucon M.S.A.
Fritz	Silica Fume
Masterbuilders	MBSF (Sp. Gr. 2.2)
Boral	Ultra Poz D
	Ultra Poz S
Sika	Sikacrete 950
	Sikacrete 950 DP
Simcal Inc.	Simcal Microsilica
Universal America, Inc.	Electrasil Microsilica
W. R. Grace	Force 10000
	Force 10000 D

Slag

Manufacturer	Product
**Lefarge/Blue Circle Cement Co.	NewCem - Grade 120
Allentown Cement Co.	AllCem - Grade 100
**St. Lawrence Cement	Grancem – Grade 120
**Lehigh Cement	Allcem/Camden – Grade 120

Class N

Manufacturer	Product
Lehigh	XPM

(25) CORRUGATED METAL PIPE PRODUCERS ON QA/QC PROGRAM – (Physical Lab)

The following manufacturers of corrugated metal culvert pipe have VDOT approved Quality Assurance programs as outlined in the instructions. For additions and deletions to this list contact the District Materials Engineer.

Manufacturer	Plant Location
Bowie Sales, Inc.	Shawsville, VA
Carl M. Henshaw Drainage Products	Powhatan, VA
CMC Supply, Inc.	Roanoke, VA
Contech Construction Products	Greencastle, PA
Contech Construction Products	New Castle, DE
Contech Construction Products	Charlotte, NC
Contech Construction Products	Raleigh, NC
Contech Construction Products	Summit, KY
Eastern Supply, Inc.	Winchester, VA
Lane Metal Products	Bealton, VA
Lane Metal Products	Bedford, PA
Lane Metal Products	Dublin, VA
Public Drainage Supply	Blountville, TN
Smith Setzer & Sons, Inc.	Catawba, NC

(26) CONCRETE PIPE PRODUCERS ON QA/QC PROGRAM – (Physical Lab)

The following manufacturers of concrete culvert pipe have VDOT approved Quality Assurance programs as outlined in the instructions. For additions and deletions to this list contact the District Materials Engineer.

Manufacturer	Plant Location
Americast	Chesapeake, VA
Americast	Ashland, VA
Bolton Concrete Products	Bristol, VA
CSR Hydro Conduit	Frederick, MD
Foltz Concrete Pipe Co.	Winston -Salem, NC
Hanson Concrete Products	Chesapeake, VA
Hanson Concrete Products	Hanover Plant, Hanover, VA
Hanson Concrete Products	Jessup, MD
Hanson Concrete Products	Manassas, VA
Hanson Concrete Products	Southside Plant, Richmond, VA
Hanson Concrete Products	Roanoke, VA
Hydro Conduit Corporation	Thomasville, NC
Permatile Concrete Pipe Co.	Bristol, VA
Rinker Materials	Middletown, DE
Smith-Setzer & Sons, Inc.	Catawba, NC
Smith-Setzer & Sons, Inc.	Stoney Creek, VA

(27) QUALIFIED SILICONE RUBBER JOINT SEALER – (Chemistry Lab)

The following products have been prequalified, *but* the manufacturer must supply certification for each lot.

Class A

Roadsaver Part #34902	Crafco, Inc. 420 N. Roosevelt Chandler, AR 85226 (800) 528-8242
Dow Corning 888	Dow Corning Corp. 3901 South Saginaw Road Midland, MI 48686 (989)496-4400
Tremco Spectrum 800	Tremco Incorporated 3777 Green Road Beachwood, OH 44122 (216) 292-5000

Class B (for use on newly sawn or newly constructed joints only)

Roadsaver SL Part #34903	Crafco, Inc. 420 N. Roosevelt Chandler, AR 85226 (800) 528-8242
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Class C (for use in newly sawn or newly constructed joints, including joints between hydraulic cement concrete pavement and asphaltic shoulders with no spalling of HCC edge)

Dow Corning 890 SL	Dow Corning Corp. 3901 South Saginaw Road Midland, MI 48686 (989) 496-4400
Tremco Spectrum 900 SL	Tremco Incorporated 3777 Green Road Beachwood, OH 44122 (216) 292-5000

Class D (to seal expansion joints on bridge decks, where rapid curing is required).

Dow Corning 902 RCS	Dow Corning Corp. 3901 South Saginaw Road Midland, MI 48686 (989) 496-4400
*Wabo Silicone Seal	Watson Bowman Acme Corp. 95 Pineview Drive Amherst, NY 14228 (703) 691-9239

(28) **POLYMERS FOR SEALING CRACKS IN HYDRAULIC CEMENT CONCRETE-**
(Physical Lab)

Product	Type Polymer	Manufacturer
DegaDeck Crack Sealer	MMA	BASF
E-Bond 550 Hi-Mod Low Viscosity	Epoxy	E-Bond
Mark-135 Safe-T-Seal	Epoxy	Polycarb
Sikadur 55 SLV	Epoxy	Sika Chemical Corp.
Sikadur 35 Hi-Mod LV	Epoxy	Sika Chemical Corp.
Surepoxy HMLV	Epoxy	Kaufman Inc.
Versafill 60A/60B	Epoxy	Henkel Corporation
Crack Sealer ULV – 2 Part	HMWM (Mod)	Watson Bowman Acme
Duraguard 401-100 (Low Modulus)	HMWM	ChemMasters
Duraguard 401-3 (High Modulus)	HMWM	ChemMasters
Rhoc Gil HS-LV	HMWM	Rhone Poulenc
Rhoc Gil HS-2K	HMWM	Rhone Poulenc
Sealate T-70-MX-30 Bridge Deck Elongation	HMWM	Transpo Industries
Sika Pronto 19	HMWM	Sika Chemical Corp.
Transpo T-70 MX	HMWM	Transpo Industries
Transpo T-70 X Static Loading	HMWM	Transpo Industries
Percol Concrete Healer	Urethane	Percol Polymerics, Inc.

LEGEND:**HMWM (Mod)****High Molecular Weight Methacrylate Modified****HMWM****High Molecular Weight Methacrylate****MMA****Methyl Methacrylate**

(29) **FASTENING SYSTEMS - (Physical Lab)**

<u>Chemical Anchors</u>		
Product	Manufacturer	Description
Acrylic-100	Powers Fasteners, Inc. Brewster, NY	Adhesive cartridge for use in anchoring dowels, rebars and bolts in concrete. Base temperature 85 F setting time 15 min. Base temperature 50 F setting time 1 hr. Base temperature -10 F setting time 6 hrs.
Anchor Loc	Schul International Co. Norcross, GA	Cartridge epoxy dowel bar anchoring system
CIA – Gel Epoxy	Covert Operations Long Beach, CA	Cartridge epoxy anchoring system for dowel bars, rebars and anchoring bolts.
DBA-5	Superior Epoxies Coatings, Inc. Lilburn, GA	Epoxy gel anchor system for dowel bars, Rebars, anchoring bolts, and bonding hardened concrete to other materials Mix 1:1 by volume. Apply above 33° F
Dural Fast Set Epoxy Gel	Tamms Industries Kirkland, IL	Epoxy cartridge kit for anchoring dowel bars, rebars and anchoring bolts. Application temperature must be at least 35° F and rising.
Epcon Systems	ITW Ramset/Red Head Wooddale, IL	Cartridge epoxy anchor system for threaded rod and rebar applications.
Epcon System Acrylic 7	ITW Ramset/Red Head Wooddale, IL	Two part, all weather adhesive for anchoring, doweling and pinning applications. Can be used down to -10° F without preheating the cartridge.
Epcon Maxima 7 Acrylic Glass Capsule System	ITW Ramset/Red Head Wooddale, IL	Acrylic glass capsule system, can be used in temperatures as low as 32° F. (Full cure time is 24 hours.)
Epcon Impact Vinylester Glass Capsule Sys	ITW Ramset/Red Head Wooddale, IL	Two part vinylester capsule system, one capsule installation will equal yield Strength of Gr. 60 rebar, and two capsule Installation will equal ultimate strength of Gr. 60 rebar.
Futura Bond 566R	Futura Companies Scottdale, GA	For grouting anchoring dowels, re-bars, and bolts in concrete. Also for bonding in external steel reinforcing plates to concrete. For bonding concrete. Use above 40° F.
Hi-Mod Gel 580, 590, 592	E-Bond Ft. Lauderdale, FL	For use in anchoring bolts dowels, and pins, injection grouting and as a structural adhesive. Can be extended with salt free silica aggregate mixed 1:1 by volume. Cures to 40° F
Hilti HVA Adhesive Anchoring	Hilti Fastening Systems Tulsa, OK	Capsulated anchor for rods, dowel bars and rebar use above 23° F. Cure time at 23° F to 32° F is 5 hours, at 68° F and above the cure time is 20 minutes.
Hilti C-100 Anchoring System	Hilti Fastening Systems Tulsa, OK	Cartridge dowelling system for use above 32° F. Cure time at 32° F is 48 hours, at 70° cure time is 6 hours.

List No. 29(Cont.)

<u>Chemical Anchors (Cont.)</u>		
Product	Manufacturer	Description
Hilti Hit Re 500	Hilti Fastening Systems Tulsa, OK	Two part epoxy system. Extended temperature range from 23° to 105° F. Has a working time of 30 minutes.
Hilti HSE 2411 Dowelling System	Hilti Fastening Systems Tulsa, OK	Cartridge dowelling system for use above 32° F. Cure time at 32° F is 48 hours, at 70° cure time is 6 hours.
Hilti HVU Adhesive Capsule Anchoring & Dowelling System	Hilti Fastening Systems Tulsa, OK	Urethane Methacrylate consisting of resin, hardener and aggregate in a foil capsule. Curing time above 68 F 20 min. Curing time above 50 F 30 min., 32 F 1 hr.
Hilti HY-150 Anchor System	Hilti Fastening System Tulsa, OK	Cartridge anchor for rods, dowel bars, and rebar use above 23° F (-5°C). Cure time at 23° F is 6 hours. At 68° F, cure time is 45 minutes.
Hilti HSE 2421 Anchor System	Hilti Fastening System Tulsa, OK	Two part cartridge epoxy system used to install reinforcing steel and threaded studs. Cures in temperatures of 32°F - 100°F
HS-200	Adhesives Technology Corp. Pompano Beach, FL	Two part cartridge epoxy system used to install reinforcing steel and threaded studs. Cures in temperatures of 32°F - 100°F.
Keligrit	Kelken Gold, Inc. Parlin, NJ	High strength, non-shrink polyester resin anchoring. May be used in freezing Conditions down to 10 F by keeping resin at 70° F- 90 F immediately prior to use.
Keligrout/ Keligrout 101	Kelken Gold, Inc. Parlin, NJ	Polyester anchoring system for grouting anchor bolts and dowel bars. Cure time is 48 hours at 70° F
Kelipoxy II	Kelken Gold, Inc. Parlin, NJ	Epoxy anchoring system for grouting anchor bolts and dowel bars. Cure time is 48 hours at 77° F
Liquid ROC 300	MKT Fastening, LLC Lonoke, AR	Capsule polyester anchor for dowel bars rebar, anchoring bolts.
Liquid ROC 300	MKT Fastening, LLC Lonoke, AR	Twin tube polyester anchor for dowel bars rebar, anchoring bolts.
Mark-198.1	Poly-Carb, Inc.	Two part cartridge epoxy system used to install reinforcing steel and threaded studs. Substrate temperature should be above 40° F. at time of application. Mark-198.1 is not recommended where the cured material is Subjected to a dry temperature condition of 190° F. or greater, as well as, a wet temperature condition of 140° F. or greater.
PolyBac/Polyject 1257-58	PolyGem, Inc. West Chicago, IL	Polymer anchoring system for use anchoring threaded rods, bolts, reinforcing steel and smooth dowels to solid concrete. Pot life at 75° F is 15 minutes.

<u>Chemical Anchors (Cont.)</u>		
Product	Manufacturer	Description
PolyBac/Polyject 1605	PolyGem, Inc. West Chicago, IL	Fast setting polymer anchoring system for use anchoring threaded rods, bolts, reinforcing steel and smooth dowels to solid concrete. Pot life at 75° F is 10 minutes.
Powers AC 5.5 Plus Adhesive	Powers Fasteners, Inc. Brewster, NY	Two component cartridge epoxy adhesive fast curing specially designed For anchoring in a wide range of weather conditions. Installation temperatures 0° F – 105° F.
Powers AC 100 Plus Adhesive	Powers Fasteners, Inc. Brewster, NY	Two component cartridge epoxy adhesive fast curing specially designed For anchoring in a wide range of weather conditions. Installation temperatures 0° F – 105° F.
Powers Hammer Capsule	Powers Fasteners, Inc. Brewster, NY	Hammer capsule adhesive for use in anchoring dowels, rebars, and bolts in Concrete. Base material temp. 68° F and over , setting time 1 hr., 32-50° F 5 hrs, 14-23° F 24 hrs.
Powers Power-Fast Epoxy Injection Gel (Slow Set)	Powers Fasteners, Inc. Brewster, NY	Gel time 60 minutes at 40° F, min. cure time 16 hours, full cure 48 hours. Do not use below 40°F.
Powers Power-Fast Epoxy Injection Gel (Fast Set)	Powers Fasteners, Inc. Brewster, NY	Gel time 30 minutes at 40° F, min. cure time 8 hours, full cure 36 hours. Do not use below 40° F.
Propoxy 300 Fast	Unitex Kansas City, MO	Fast epoxy anchoring system used for grouting bolts, dowels, pins, structural bonding of concrete, masonry, metal, and wood, both vertical and overhead, 2 component 1:1 mix by volume, moisture insensitive use above 30° F sets 5-10 min.
Propoxy 300	Unitex Kansas City, MO	Epoxy anchoring system used for grouting bolts, dowels, pins, structural bonding concrete and masonry. 2 component epoxy, mix 1:1 by volume Use between 65-85° F Pot life above 30 min.
Rezi-Weld Rapid Set Epoxy Anchor System	W. R. Meadows Austell, GA	Epoxy anchoring system used for dowels, bars, and anchoring bolts. Pot life at 73° F is 10 min.

<u>Chemical Anchors (Cont.)</u>		
<u>Product</u>	<u>Manufacturer</u>	<u>Description</u>
Sikadur Anchor Fix-1	Sika Corp. Lyndhurst, NJ	One cartridge, two component, solvent and styrene free, modified acrylic, anchoring adhesive used to install rebar, threaded rods, bolts and special fastening systems. Application temperature substrate and ambient 14° to 86°F.
Sikadur (FS) Anchor Fix-3	Sika Corp. Lyndhurst, NJ	Two cartridge, fast set, two component, solvent and styrene free, Epoxy Resin, anchoring adhesive used to install rebar or threaded rods. Application temperature substrate and ambient 40° to 90°F
Sikadur Anchor Fix-4	Sika Corp. Lyndhurst, NJ	Two cartridge, two component, solvent and styrene free, Epoxy Resin, anchoring adhesive, used to install rebar or threaded rods. Application temperature substrate and ambient: 40° to 90°F.
Sikadur DBA	Sika Corp. Lyndhurst, NY	Anchoring System
Sikadur Injection Gel Anchors	Sika Corp. Dublin, VA	Epoxy anchoring system for grouting bolts, dowel, pins. Insensitive to moisture. Mix 1:1 by volume. Pot life less than 30 min. Use above 40°F.
Slam-Tite Hammer in Glass Chemical Capsule	Ankrnite Fastening Systems Tulsa, OK	Polyester resin and hardening agent with aggregate filler. Minimum cure time above 68F 10 min. 50-68°F 5 hrs., Store in original container at 50 to 100°F.
Simpson Epoxy-Tie (ET)	Simpson Strong Tie Co. Addison, IL	It is a two component cartridge, 100% Solids epoxy based adhesive for use As a high strength, non-shrink anchor grouting material.
Simpson Vinylester Glass Capsule (VGC)	Simpson Strong-Tie Co., Inc. Dublin, CA 94568	Two component, vinyl ester based adhesive contained within a glass capsule, used to anchor threaded rod or rebar. Adhesive should be applied in dry conditions, should not be installed in or through standing water. The base material must be 25°F (-50°C) or above, at the time of installation.
Sonneborrn Epogel	Unitex Kansas City, MO	Pre-condition to 65-75°F. Potlife 30 min. at 77°F. Application temperature must be above 40°F.
Sonneborrn Rapid Gel	Unitex Kansas City, MO	Pre-condition to 65-75°F. Potlife 7 min. Kansas City, MO at 77°F. Application temperature must be above 40°F.
Sure Anchor Epoxy J50	Dayton Superior Oregon, IL	Cures above 40°F for use in anchoring bolts, dowels, and reinforcing steel 1:1 by volume, pot life 30-40 min.
Sure Anchor I Epoxy J51	Dayton Superior Oregon, IL	Fast epoxy anchoring system used for grouting bolts, dowels, pins, both vertical and overhead, 1:1 by volume, moisture insensitive, use above 30°F, sets in 5-10 minutes.

List No. 29(Cont.)

<u>Chemical Anchors (Cont.)</u>		
<u>Product</u>	<u>Manufacturer</u>	<u>Description</u>
Surepoxy 117 Epoxy Anchoring System	Kaufman Products, Inc. Baltimore, MD	Epoxy anchoring system for grouting, anchoring bolts, and dowel bars. Use above 60°F, pot life of 8-10 min at 75°F
Surepoxy 116 Epoxy Anchoring System	Kaufman Products, Inc. Baltimore, MD	Epoxy anchoring system for grouting, anchoring bolts, and dowel bars. Use 40-60°F, pot life of 8-10 min at 50°F
ThoRoc Anchor Bond	Degussa Building Systems Shakopee, MN	Polyester resin anchor (not for use in high moisture conditions)
True Grip 590	J. Dedoes, Inc. Milford, MI	Epoxy anchoring system for grouting, anchoring bolts, and dowel bars. Cure time is 24 hrs. at 75°F.
Ultrabond 1	Adhesives Technology Corp.	Two component, 100% solids, high modulus, structural epoxy gel. Ultrabond 1 is solvent free, no odor, high strength moisture intensive, non-sag epoxy system. Recommended temperature range is 35° - 115°F.
Ultrabond 1300	Adhesives Technology Corp. Pompano Beach, FL	Two component 100% solids, high aspect ceramic blend epoxy for use From 35-110°F. Initial cure 4 hrs. Final cure 24 hours.
Ultrabond 2000	Adhesives Technology Corp. Pompano Beach, FL	Ultrabond 2000 is a two component cartridge, 100% solids ceramic blend Epoxy: moisture insensitive, low Viscosity; temperature range from 60° to 110°F; mix ratio of 2:1
Ultrabond 2200	Adhesives Technology Corp. Pompano Beach, FL	Epoxy adhesive anchors for fastening materials to masonry items. Sets in 8 hrs. at 80°F.
Ultrabond 3	Adhesives Technology Corp. Pompano Beach, FL	Epoxy adhesive anchors for fastening materials to masonry items. Sets in 2 hrs. at 80°F.
Unisorb Capsule Anchor	Unisorb, Inc. Jackson, MI	Urethane adhesive anchor for grouting bolts, dowels, and pins on vertical and overhead use. Glass encapsulated package may be used in wet or damp conditions. Sets in 30 min. at room temperature.

<u>Mechanical Anchors</u>		
<u>Product</u>	<u>Manufacturer</u>	<u>Description</u>
Drillco Maxi-Bolt	Drillco Devices, Ltd Long Island City, NY	Expansion anchor
Hilti Kwik Bolt II Expansion Anchor	Hilti, Inc	Expansion Anchor Bolt
Hilti Kwik Bolt 3 Expansion Anchor	Hilti, Inc.	Expansion Anchor Bolt
Hilti HDI Anchor	Hilti, Inc.	Flush mount drop in expansion anchor.
Liebig Safety Bolts	Liebig International, Inc. Charlottesville, VA	Concrete expansion anchor
Power-Bolt	Powers Fasteners, Inc. Brewster, NY	Expansion anchor bolt
Power Stud	Powers Fasteners, Inc. Brewster, NY	Expansion anchor bolt
Sup-R-Stud	MKT Fastening, LLC Lonoke, AR	Expansion anchor bolt
Tru Bolt Wedge Anchors	ITS Ramset Redhead	Expansion anchor bolt
Wedge Bolt Anchor	Powers Fasteners, Inc. Brewster, NY	Wedge Bolt Anchor

HYDRAULIC CEMENT CONCRETE**(30) SEALANTS, STAINS, AND COATINGS – (Physical Lab)****Sealants**

<u>Product</u>	<u>Manufacturer</u>	<u>Description</u>	<u>VOC Level</u>
<u>Silane, Siloxane Sealers</u>			
Certi-Vex Guard CACS (Gray)	Vexcon Chemicals, Inc Philadelphia, PA	A vinyl toluene acrylic Silane polymer blend pigmented for application on all concrete surfaces which require Silane protection and a decorative appearance	385 g/l
Certi – Vex Guard	Vexcon Chemicals, Inc. Philadelphia, PA	Vinyl toluene acrylic silane polymer blend. First coat 125 sq.ft/gal. Second coat 300 Sq.ft/gal	326 g/l
Consolideck SaltGuard WB	Prosoco, Inc GA, NJ, TX	Water based siloxane water repellent and chloride screen	<120 g/l
Evercrete Topsealer	Environmentally Safe Solutions Martinsville, VA	Surface sealer sets within two to four hours after application. Coverage 150 – 300 sf/gallon Depending on concretes texture.	0 g/l
Surtreat TPS II	Sealtreat Corp. Pittsburg, PA	Silane Coating	0 g/l
Sikagard 701W	Sika Corp. Richmond, VA	Solvent-free siloxane emulsion concentrate. Coverage 100-250 sq.ft./gal. Mix ratio = 1 part to 4 parts water.	193 g/l

List No. 30(Cont.)

**HYDRAULIC CEMENT CONCRETE
SEALANTS, STAINS, AND COATINGS**

<u>Product</u>	<u>Manufacturer</u>	<u>Description</u>	<u>VOC Level</u>
<u>Epoxy and other Sealers</u>			
E-Bond 120	E-Bond Epoxies, Inc Ft. Lauderdale, FL	Epoxy penetrating sealer for concrete. Mix 1:1 by volume, tack free time at 77°F is 45 min. Use above 40°F.	
FX 432	Fox Industries Baltimore, MD	Polymer modified penetrating sealer for concrete. One component water based. Apply at a rate of 200-300 sq. ft./gal with brush, roller or spray.	0.0 g/l
<u>Stains</u>			
Aquastain T-96	Tamms Industries, Inc Kirkland, IL	Decorative water based, liquid polymer penetrating stain. Apply 2 coats at 45° F and rising. Apply second coat 12-24 hrs.	<100 g/l
Canyon Tone Stain	United Coatings Spokane, WA	Pigmented stain for coloring and protecting concrete, Acrylic copolymer Apply at 150sq.ft./gal., 40-90°F.	163 g/l
Dura Patch MMA M	Chem Masters Madison, Ohio	Polymer liquid with an MMA base and powder catalyst. Extended 100% with # 8's. 1 hour strength, 4240 psi. Can be applied to moisture and frost-free surfaces.	
Dura Patch MMA G	Chem Masters Madison, Ohio	Same as DuraPatch MMA M	
H & C Shield Plus Ultra	Sherwin Williams	A low odor, water based stain that provides a long-lasting, durable and decorative finish on interior and exterior concrete and masonry	222 g/L

List No. 30(Cont.)

**HYDRAULIC CEMENT CONCRETE
SEALANTS, STAINS, AND COATINGS**

Other Protective Coatings

<u>Product</u>	<u>Manufacturer</u>	<u>Description</u>	<u>VOC Level</u>
Certi-Vex Envio Smooth VOC	Vexcon Chemicals, Inc. Philadelphia, PA.	A solvent-borne modified acrylic resin which produces a decorative high buildcoating that covers surface blemishes and cracks.	296 g/l
Certi-Vex Envio Tex VOC Textured Sand	Vexcon Chemicals, Inc. Philadelphia, PA	A solvent-borne modified acrylic resin with selected pigments and fillers, including Portland cement, to produce a decorative high build coating that covers surface blemishes and cracks.	296 g/l
Deep Penetrating Sealer	Evercrete	Environmentally friendly, non-toxic, non-flammable, odorless, clear, water soluble, liquid concrete sealer.	0 g/l
Tamms Coat	Tamms Mentor, OH	Water based emulsion of 100% acrylic resin polymer. Textured decorative and protective coating. Apply at surface and ambient temperatures between 45-90°F.	<100 g/l
Texcote 300 Bridgecote	Textured Coatings of America, Inc Ft. Lauderdale, FL	High build latex acrylic coating Rapid drying, good adhesion. Covers 1.25 m ² /L at 40-100 F.	300 g/l

List No. 30(Cont.)

**HYDRAULIC CEMENT CONCRETE
SEALANTS, STAINS, AND COATINGS**

Other Protective Coatings

<u>Product</u>	<u>Manufacture</u>	<u>Description</u>	<u>VOC Level</u>
**Thorocoat DOT	Degussa Building Systems	A water based, 100% acrylic coating for use on exterior, vertical, overhead and previous coated surfaces. Thorocoat DOT comes only in a fine formation. Estimated coverage on porous substrates is 60-80 sq. ft., per gallon, per coat. Estimated coverage on dense substrates is 80-100 sq. ft., per gallon, per coat.	58 g/l
**Thorocoat Smooth	Degussa Building Systems	A water based, 100% acrylic coating for use on above grade walls, concrete masonry cement plaster and stucco, vertical and overhead surfaces, non-traffic bearing horizontal surfaces. Comes in textures of smooth, fine and coarse. Thorocoat Smooth is meant to be applied as a two-coat system. Estimated coverage is 60-100 sq. ft. per gallon, per coat	107 g/l
Thoroseal	Degussa Building Systems	Decorative coating, cementitious mixed with an acrylic copolymer (Acryl 60) 50# to 2qts acrylic to 3-4 qts water cover rate of 2#/sq.yd. Apply above 40°F	0 g/l

**HYDRAULIC CEMENT CONCRETE
SEALANTS, STAINS, AND COATINGS**

Concrete Anti-Graffiti Systems

<u>Product</u>	<u>Manufacturer</u>	<u>Description</u>	<u>VOC Level</u>
Aquathane	Tamms Mentor, OH	Two component aliphatic polyurethane anti-graffiti protective coating. Apply at surface and ambient temperatures between 50 and 90F and at humidity below 80%.	<340 g/l
Ceva Thane CR Top Coat 76	E-poxy Engineered Materials LLC	Two component, air-drying, water borne polyurethane	180 g/l
FX-441	Fox Industries Baltimore, MD.	Anti Graffiti Aliphatic Urethane two part system: one component top coat and second component top coat apply at 300 square ft/gal apply above 40°F.	340 g/l
Graffiti-Pruf	Visual Pollution Technologies Scottsdale, AZ Telephone no. 480-657-9183 Toll free 888-887-8347 Fax 480-767-2796	Completely non-toxic liquid, water-based emulsion used for protecting Surfaces from graffiti, atmospheric Pollution and corrosion. Apply only when ambient and surface temperatures are above 40°F.	0 g/l
Professional Water Sealant Super Strength	Professional Products of Kansas, Inc. Wichita, Kansas	One part, One coat penetrating, permanent weather proofing formula using RTV Silicone Rubber.	<250 g/l
Prmakote	Visual Pollution Technologies Scottsdale, AZ Telephone no. 480-657-9183 Toll free 888-887-8347 Fax 480-767-2796	One step application no thinning or mixing. Dries and protects in 24 hours. Retards the growth of mold, mildew and algae. Apply 300 to 600 square ft/gallon depending on the surface.	220 g/l

List No. 30(Cont.)

**HYDRAULIC CEMENT CONCRETE
SEALANTS, STAINS, AND COATINGS**

Non-Compliant in Arlington, Fairfax, Loudoun, Prince William, and Stafford Counties

<u>Product</u>	<u>Manufacturer</u>	<u>Description</u>	<u>VOC Level</u>
Sure Klean Weather Seal H-40	Prosoco, Inc. GA, NJ, TX	Protective silane coating apply 40-95°F	
Sil-Act ATS 42	Advanced Chemical Tech Oklahoma City, OK	Silane sealant used to prevent salt intrusion. Applied at 1 gal/125 sq. ft. with low pressure sprayer.	589 g/l
Sure-Poxy Penetrating	Kaufman Products Baltimore, MD	Epoxy penetrating sealer. Mix 1:1 by vol, apply 150 sq. ft/gal/coat. Pot life 70°F is 24 hours, apply above 50°F.	610 g/l
FX 430	Fox Industries Baltimore, MD	Fox Industries Concrete stain and coating. Acrylic copolymer in clear, white, grey and colors, apply at 300 sq/ft/gal.	675 g/l
H&C Silicone Acrylic Concrete Stain	Sherwin Williams Richmond, VA	Solvent based concrete stain formulated with acrylic and silicone resins and alkali proof pigments.	575 g/l
Rainstopper 400	Textured Coatings of America, Inc Ft. Lauderdale, FL	Semi-transparent solvent free resin sealer. Covers 125 sq/ft/gal.	600 g/l
Texcote XL -70	Textured Coatings of America, Inc. Ft. Lauderdale, FL	One component ready to use concrete protective coating. Application temperature 40-100°F	600 g/l

(31) **HYDRAULIC CEMENT CONCRETE PATCHING MATERIALS – (Physical Lab)****Very Rapid (2500psi in 2 hours)**

<u>Product</u>	<u>Manufacturer</u>	<u>Description</u>
Chemspeed 65	Chem Masters Madison, Ohio	Initial Set – 10 minutes 2 hr. strength 3183 psi 6 hr. strength 3925 psi 28 day strength 7043 psi
Dura Patch MMA M	Chem Masters Madison, Ohio	Polymer liquid with an MMA base and powder catalyst. Extended 100% With # 8's. 1 hour strength, 4200 psi. Can be applied to moisture and frost- free surfaces.
Dura Patch MMA G	Chem Masters Madison, Ohio	Polymer liquid with and MMA base and powder catalyst. Extended 100% with # 8's. 1 hour strength. 3520 psi. Can be applied to moisture and frost-free surfaces.
Elastic Cement	Percol Polymerics, Inc	Rapid setting (10 min.) polymer concrete. Use with aggregate to patch potholes and spalls in PCC and asphalt concrete. Use neat to seal moving cracks in PCC.
Euco Speed MP*	Euclid Chemical Co. Cleveland, OH	Initial set 12 min., 4.2lbs water/bag. Extended 30lbs/bag with #8's, 2hr. strength 5890 psi, 28 day strength 6600 psi., NEVER extend Euco Speed MP with limestone or aggr. containing limestone.
Five Star Highway Patch	Five Star Products Inc Fairfield, CT.	Initial set-61 min extended 30 lbs #8's 50 lbs/bag 2 hrs strength- 2510psi Vertical and overhead patching
* Polymer concrete patching materials - non-cementitious - cannot be overlayed with epoxy EP-5 Mod		

List No. 31 (Cont.)

HYDRAULIC CEMENT CONCRETE PATCHING MATERIALS**Very Rapid (2500psi in 2 hours)**

<u>Product</u>	<u>Manufacturer</u>	<u>Description</u>
Five Star Structural Patch	Five Star Products Inc Fairfield, CT	Initial set- 25 min 150 Lbs / 18.7 lbs water, 3 Hrs cube strength- 5830 psi
Five Star Structural Concrete-V/O	Five Star Products Inc Fairfield, CT	Initial set- 28 min Vertical and Overhead patching, 2 hrs strength-3830 psi, 28 day8330 psi. Water/mix ratio 0.167
FRC-121	CISCO Pounding Mill, VA	Initial set-25 min extended 25#/bag with #8's, 2 hrs strength-3620psi,4 hrs strength-5210psi Vertical and overhead patching
FX-263	Fox Industries, Inc Baltimore, MD	Initial set- 15min 8.4 lbs water/bag, 4 hrs strength-2680psi, 24hrs strength-2970psi, 28day strength-4770psi Vertical & overhead patching
FX-930	Fox Industries, Inc Baltimore, MD	Initial set-10 min 50 lbs sand/50 lbs #8's/ 16.66 lbs water / 59 lb bag, 2 hrs strength- 2630 psi, 24 hrs strength- 4080 psi.
High Power D.O.T. Grade Repair Mortar	US Concrete Products	Initial Set – 11 minutes 2 hr. strength – 3540 psi 6 hr. strength – 4380 psi 28 day strength – 6110 psi 55 lb. Bag mixed with 50 lbs. # 8 stone and 8.33 lb. Water
HD-50 HD Concrete Patch	Dayton Superior Corp Oregon, IL	Initial set- 56 min extended 30lbs #8's/50 lbs bag/ 6.8 lbs water, 2hrs strength 4190 psi
HD-DOT Patch	Symons Corp DesPlaines, IL	Initial set 56 min. extended 13.6 kg #8's/22.7 kg bag/3.1 L water, 2 hr. Strength 28.1 Mpa
Magna 100	Bonsal American Charlotte, NC St. Albans, WV White Marsh, MD	Initial set 14 min.2 hr. strength 3770 psi 50 lb bag mixed with 30 lbs #8's and 4.2 lb. Water

HYDRAULIC CEMENT CONCRETE PATCHING MATERIALS**Very Rapid (2500psi in 2 hours)**

<u>Product</u>	<u>Manufacturer</u>	<u>Description</u>
10-60 C Rapid	Degussa Building Systems Shakopee, MN	Initial set- 15 min. extended with 30 lbs #8's/50 lb bag, 2 hrs strength- 3810 psi
PaveMend SLQ Pavemend 5.0	CeraTech, Inc.	2 hr. strength – 4650 psi 6 hr. strength – 4380 psi 28 day strength – 5660 psi For initial set and mixing instructions, see technical data sheet
PaveMend SL Pavemend 15.0	CeraTech, Inc.	2 hr. strength – 2910 psi 6 hr. strength – 2830 psi 28 day strength – 5660 psi For initial set and mixing instructions, see technical data sheet.
Planitop 18	Specialty Products, Inc.	Comp. Strength 4" x 8" cylinders 2 hrs. - 3370 psi 6 hrs. – 5080 psi 28 day – 9280 psi 7 – day bond strength 4690 psi Length Change Air = -0.07 Moist = +0.04 Initial Set = 8 min. Final Set = 11 min. 25 Cycle Freeze Thaw Loss = 0.13%
Power Set 120	Bonsal American Charlotte, NC St. Albans, WV White Marsh, MD	Initial Set – 14 minutes 2 hr. strength – 3410 psi 6 hr. strength – 3850 psi 28 day strength 7840 psi 50 lb. bag mixed with 30 lbs. #8s and 3.5 qts. water
*Rescon 424 Polymer	Symons Corp Des Plaines, IL	Polymer liquid with a MMA base and concrete powder catalyst. Extended 100% with #8's. 2hr. strength 7560 psi. Can be applied to moisture and frost-free surfaces.
*Set 45	Degussa Building Systems Shakopee, MN	Initial set- 9 min extended 25lbs #8's stone/ 50 lbs bag/ 4.17 lbs water 2 hrs strength- 6040 psi.
SikaQuick 2500	Sika Corporation	Initial Set – 18 minutes 2 hr. strength – 4120 psi 6 hr. strength – 4970 psi 28 day strength – 5550 psi 50 lb bag mixed with 30 lbs. #8's & 5.5 pints water
Sonocrete Road Patch	Degussa Building Systems Shakopee, MN	Initial Set 18 in. extended lbs. #8's/50 lb. bag with 4.7 lbs. water. 2 hr. strength 3630 psi

HYDRAULIC CEMENT CONCRETE PATCHING MATERIALS**Very Rapid (2500psi in 2 hours)**

<u>Product</u>	<u>Manufacturer</u>	<u>Description</u>
Tamms Express Repair	Tamm's Industries	Initial Set 28 min 2 hr. strength 3540 psi 6 hr. strength 3800 psi 28 day strength 9945 psi 50 lb bag mixed with 50 lbs #8's and 6.2 lbs water
Thoroc 10-60 Mortar	Degussa Building Systems Shakopee, MN	Initial set- 15 min extended Rapid Mortar with 30 lbs #8's per 50 lbs bag, 2 hrs strength- 3820 psi
*Transpo T-17 WWB	Transpo Industries, Inc. New Rochelle, NY	Polymer liquid with a MMA base and powder catalyst. Extended 100% with #8's. 2hr. strength 7830 psi. Can be applied to moisture and frost-free surfaces.
Unisorb Concrete Repair Compound	Unisorb, Inc. Jackson, MI	Initial set- 15 min extended 25 lbs #8's/50 lbs water/50 lbs bag, 2 hrs strength -2660 psi.
Versaspeed	The Euclid Chemical Co.	Initial Set – 12 minutes 2 Hr. Strength – 2700 psi 6 Hr. strength – 3830 psi 28 day strength – 8840 psi 50 lb. bag mixed with 25 lbs. # 8 stone and 3.5 lb. water.

List No. 31 (Cont.)

HYDRAULIC CEMENT CONCRETE PATCHING MATERIALS**Rapid (2000psi in 2 - 6 hours)**

<u>Product</u>	<u>Manufacturer</u>	<u>Description</u>
Belzona Magma Quartz*	Belzona, Inc. 2000 NW 88 Ct. Miami, Florida 33172	Strength- 7750 psi in 4 hrs Epoxy concrete patching
Emaco T-415	Degussa Building Systems Shakopee, MN	Initial set- 18 min extended 45% with #8's/25 kg bag/ 1.9 L water, 2 hrs strength-10.5 MPa, 4hrs strength-15.3 MPa 6hrs strength-18.4 MPa 28day strength-68.0 MPa
Embeco 411-A Mortar	Degussa Building Systems Shakopee, MN	
Euco Speed	Euclid Chemical Co. Cleveland, OH	Initial set- 23min 159 lbs Euco Speed/18.7 lb water, 6 hrs strength-2100psi, 24 hrs strength-5340psi
FX-928FR Rapid Summer	Fox Industries Baltimore, MD	Initial set -17 min extended 30lbs#8's / 50 lbs bag w/ 6.9 lbs. water/ bag 6 hrs strength-3730psi, 28day strength-5510psi
HD-25 Polymer Modified Mortar for Vertical &	Dayton Superior Oregon, IL	Initial Set – 21 Min., 6 hour strength 2720 psi, 24 hour Overhead strength 4600 psi, 7 day bond strength 3050 psi.
High Power D.O.T. Grade Repair Mortar	U. S. Concrete Products	Initial Set 33 min. 2 hr. strength – 2250 psi 6 hr. strength – 3450 psi 28 day strength – 7210 psi 50 lbs. bag mixed with 30 lb. 8's and 8.33 lb. Water
Pre-Blend Premium Patch	Pre-Blend Products, Inc.	Initial Set – 24 minutes 2 hr. strength – 2900 psi 6 hr. strength – 3320 psi 28 day strength – 5150 psi 50 lb. Bag mixed with 40 lbs. #8's and 6.77 lb. Water
SikaSet Roadway Patch	Sika Chemical Corp.	Initial Set – 64 min. 2 hr. Strength 2340 psi 28 day strength 6990 psi Mixed 6.6 lbs. water / 50 lb bag

* Polymer concrete patching materials - non-cementitious - cannot be overlayed with epoxy EP-5Mod

List No. 31 (Cont.)

HYDRAULIC CEMENT CONCRETE PATCHING MATERIALS**Slow (2000psi in 6-24 hours)**

<u>Product</u>	<u>Manufacturer</u>	<u>Description</u>
Conpatch Vertical and Overhead Polymer Patching	Conspec Marketing Co. Kansas City, KS	Vertical and overhead patching material initial set- 31min water/mix ratio-.0125 6 hrs strength- 1330 psi, 24 hrs strength-3190 psi, 28day strength- 4480psi
DuralTop Flowable Mortar	Tamms Industries Kirkland, IL	Polymer modified Flowable mortar Initial set 97 min. 1 day strength 2380 psi, 28 day strength 5730 psi Do not use limestone aggregate. Do not exceed 35 lbs. of aggregate.
Emaco S66-CI	Degussa Building Systems Shakopee, MN	Initial set- 428 min 24hrs strength-3070 psi 28day strength- 7370 psi water/mix 0.091
Emaco S88-CI	Degussa Building Systems Shakopee, MN	Initial set- 304 min 24hrs strength-4840 psi 28day strength- 11400 psi water/mix 0.151
Emaco R320	Degussa Building Systems Shakopee, MN	Initial set- 40 min 24hrs strength- 2860 psi 28day strength- 5400 psi water/mix 0.151
Five Star Vertical Patch	Five Star Products, Inc. Fairfield, CT	vertical and overhead patching material, initial set 13 min., water/mix 0.125 6 hr strength 930 psi 28 day strength 7270 psi
Hi-Cap	Kaufman Products Baltimore, MD	To be used <u>only for pipe patching only</u> initial set - 5 min, 12.5 lbs water/ bag 1 day strength- 2025 psi, 7 day strength- 6000 psi
*Patch-It	A-1 Distribution Fayetteville, NC	Epoxy mortar patching kit Strength 24 hrs. – 2, 220 PSI Strength 48 hrs. – 3,330 PSI Strength 72 hrs. – 5,300 PSI *polymer concrete patching material – non-cementitious- cannot be overlayed with epoxy EP-5 modified

HYDRAULIC CEMENT CONCRETE PATCHING MATERIALS**Slow (2000psi in 6-24 hours)**

<u>Product</u>	<u>Manufacturer</u>	<u>Description</u>
Octocrete	IPA Systems Philadelphia,PA	Initial set- 133 min 24 hrs strength(6x12)- 2546psi, 7 day strength(6x12)- 4408psi
Sika-Top 122 Plus	Sika Chemical Corp. Lyndhurst, NY	Polymer modified, Portland cement Initial set- 78 min. 1 day strength-2540 psi, 28 day strength- 5740 psi extended with 42 lbs. No. 8.
Sika-Top 123 Plus	Sika Chemical Corp Lyndhurst, NY	Latex modified, Portland cement Initial set- 42 min. 1 day strength- 3820 psi, 28 day strength- 6810 psi
Tigercrete	Garon Products Inc. Wall, NJ	Initial set 5-10 min, 6 qts water /50 lbs bag, 24 hrs compressive strength- 3390 psi
Verticoat	The Euclid Chemical Co. Cleveland, OH	Polymer modified vertical and overhead patching material. Initial set 10 min.,6 hour strength 1770 psi, 24 hour strength 3260 psi, 28 day strength 5720 psi.

(32) STABILIZERS FOR ASPHALT MIXTURES – (Asphalt Lab)

Product	Minimum	Manufacturer
Gilsonite HMA Modifier	Replaces 8% by weight of asphalt	American Gilsonite Co. Ziegler Chemical & Mineral Co .
Trinidad Lake Asphalt	Replaces 25% by weight of asphalt	Trinidad Asphalt Co. of America
Bonfibers	6 pounds per ton of total mix	Kapejo, Inc
Petroflex 402-1N	6 pounds per ton of total mix	GRC Materials Co.
Fiber Pave 3010	6 pounds per ton of total mix	Fiberized Products

(33) SHOTCRETE/GUNITE MIXTURES – (Physical Lab)

<u>Product</u>	<u>Manufacturer</u>
Euco Shot Silica Fume Modified Shotcrete	Euclid Chemical Co. Cleveland, OH
Euco SR-SC	Euclid Chemical Co. Cleveland, OH
FX-288 Micro Silica Fiber Reinforced Shotcrete Mortar	Fox Industries Baltimore, MD
Shotcrete 300 Portland cement, well graded aggregates, microsilica and special additives to improve adhesion and reduce rebound.	Bonsal American Charlotte, NC St. Albans, WV White Marsh, MD
Shotcrete 300V Portland cement, well graded aggregates microsilica and polypropylene fibers.	Bonsal American Charlotte, NC St. Albans, WV White Marsh, MD
ShotPatch 21F Silica fume enhanced, fiber reinforced shotcrete	Degussa Building Systems Cleveland, OH
SikaCem 103	Sika Corp. Richmond, VA

(34) **CONCRETE PRECAST PRODUCERS ON QA/QC PROGRAM – (Physical Lab)**

The following manufacturers of concrete precast products have VDOT approved Quality Assurance programs as outlined in the instructions.

Manufacturer	Plant Location
Advanced Precast	Springfield, VA
A. C. Miller	Blairsville, PA
Americast, Inc.	Ashland, VA
Americast, Inc.	Halltown, WVA
Americast, Inc.	Harrisonburg, VA
Bernard Huff, Inc.	Richmond, VA
Bolton Concrete Products	Johnson City, TN
Century Concrete, Inc.	Virginia Beach, VA
Cherry Precast	Rural Hall, NC
Clear Flow Precast	Waynesboro, VA
Concrete Precast Systems, Inc.	Chesapeake, VA
Concrete Safety Systems	Bethel, PA
Contractors Precast Corp.	Davidsonville, MD
Rinker Materials	Thomasville, NC
Rinker Materials	Frederick, MD
Curtis Contracting, Inc.	West Point, VA
DOT Concrete and Precast L.L.C.	Pennington Gap, VA
Eastern Vault	Princeton, WV
Frederick Precast, Inc.	Greencastle, PA
Hanson Concrete Products	Chesapeake, VA
Hanson Concrete Products	Hanover Plant, Hanover, VA
Hanson Concrete Products	Jessup, MD
Hanson Concrete Products	Salem, VA
Hanson Concrete Products	Southside Plant, Richmond, VA
D. W. Lyle, Corp.	McKenney, VA
Mack Industries	Inwood, WV
Nansemond Precast Concrete Co.	Suffolk, VA
Pawnee, Inc.	Marietta, OH
Permatile Concrete Products Co.	Bristol, VA
Rinker Materials	Middletown, DE
Ross Prestress	Bristol, TN
Rotondo Precast	Fredericksburg, VA
J & R Slaw, Inc.	Leighton, PA
Smith Carolina Corporation	Reidsville, NC
Smith Midland Corporation	Midland, VA
Stonewall Precast, Inc.	Woodstock, VA
K. J. Williams Concrete Co., Inc.	Cresaptown, MD
Winchester Building Supply Co.	Winchester, VA
Wyoming Concrete	Wyoming, DE

(35) FIBERS FOR USE IN HYDRAULIC CEMENT CONCRETE – (Physical Lab)**Steel Fibers**

Supplier	Phone Number
Bekart Wire Co	(404) 427-8520

Polypropylene Fibers

Supplier	Phone Number
FiberMesh	(512) 261-4600
Forta	(412) 458-5221
W. R. Grace	(617) 876-1401
Durafiber	(804) 371-7252
The Euclid Chemical Company (Monofil)	(800) 321-7628
The Euclid Chemical Company (Fibrillated)	(800) 321-7628

Polyolefin

Supplier	Phone Number
3M	

Polyester

Supplier	Phone Number
The Euclid Chemical Company (Super 76)	(800) 321-7628

(36) PRE-FABRICATED EDGE DRAINS – (Mohamed Elfino)

12" AdvanEdge Pipe	Advanced Drainage Systems, Inc. 12137 Deer Haven Road Marriotsville, MD 21104 1 – (443) 463-5814 American Wick Drain Corp. 1209 Airport Road Monroe, NC 28110 1-(800) 242-9425 WEBTEC, Inc. P.O. Box 19729 Charlotte, NC 28219 1-(800) 438-0027
Akwadrain Strip Drain	
TerraDrain Strip Drain Style "T"	

(37) WALL DRAIN SYSTEMS – (Stan Hite)

Amerdrain 500	American Wick Drain Co. 1209 Airport Road Monroe, NC 28110
Amerdrain 520	American Wick Drain Co. 1209 Airport Road Monroe, NC 28110
Amerdrain 650	American Wick Drain Co. 1209 Airport Road Monroe, NC 28110
CCW MiraDRAIN 6000	Carlisle Coatings & Waterproofing Inc. 900 Hensley Lane Wylie, TX 75098
CCW MiraDRAIN 6200	Carlisle Coatings & Waterproofing Inc. 900 Hensley Lane Wylie, TX 75098
CCW MiraDRAIN 8000	Carlisle Coatings & Waterproofing Inc. 900 Hensley Lane Wylie, TX 75098
CCW MiraDRAIN 9000	Carlisle Coatings & Waterproofing Inc. 900 Hensley Lane Wylie, TX 75098
Drain-It 500	ACF, Inc. 1801 Willis Road Richmond, VA
Monsanto Drainage Mat Hydraway	Monsanto, Co. 800 N. Lindbergh Blvd. St. Louis, MO 63167
TerraDrain 101	Webtec, Inc. PO Box 19729 Charlotte, NC 28219
TerraDrain 203	Webtec, Inc. PO Box 19729 Charlotte, NC 28219

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(38) PIPE REHABILITATION SYSTEMS - (Stan Hite)

Contech A-2 Contech A-2000	Contech Construction Prod. Inc. 13801 Village Mill Drive, Suite 104 Midlothian, Virginia 23113
Culvert Renew HDPE Liner	Water Works Supply of Virginia 8338 Old Richfood Road Mechanicsville, VA 23116
CIPP, COR72-AT-470	CIPP Corp. 515 5 th Street Hudson, IA TriState Utilities Utility Rehabilitation Specialists 2111 Smith Avenue Chesapeake, VA 23320
Danby (Up to 42 in. in diameter. Large sizes should have design calculations submitted for review)	Danby of North America 100 Church Lane Baltimore, MD 21208
Easy Liner Slipliner	Aqueous Sales, Inc. 136530 Hailsham circle Midlothian, VA 23113
Insituform	Insituform East Inc. 7400 Beaufont Springs Richmond, VA
Lamson Vylon Slipliner	Waterpro, Inc. 8910 Burge Ave. Richmond VA 23236
N-12 P.E. Pipe	Advanced Drainage Systems, Inc. 5950 Fairview Rd. Suite 403 Charlotte, NC 28210
National Liner	American Water Services Underground Infrastructure, Inc. 4143 Weaver Court Hilliard, Ohio 43026
Perma-Lateral Relining System	Perma-Liner Industries, Inc. 18548 US Highway 19 N. Clearwater, FL 33764
Perma-Liner Point Repair System	Perma-Liner Industries Inc. 18548 US Highway 19 N. Clearwater, FL 33764
Plexco/Spirolite	J. P. McElvenny Co. Inc. Richmond, VA

List No. 38 (Cont.)

PolySpray Full Structural	Hunting Pipeline Service 860 Prospect Hill Road Windsor, CT 06095
Poly-Triplex Liner System	Poly-Triplex Technologies, Inc. PO Box 18167 Panama City Beach, FL 32417
Premier-Pipe USA	Am-Liner East, Inc. 1402 Shepard Drive Sterling, VA 20164
Superliner	Inner-View 1140 Kempsville Rd. Chesapeake, VA 23320
Snap-Tite (Up to 42 in. in diameter. Large sizes should have design calculations submitted for review)	H.D. Polyethylene Pipe Systems, Inc. P.O. Box 5253 Pinehurst, NC 28374
U-Liner	American Water Services Underground Infrastructure, Inc. 4143 Weaver Court Hilliard, Ohio 43026
Ultraliner	Ultraliner P.O. Box 3630 Oxford, AL 36203 P.O. Box 5253 Pinehurst, NC 28374
Ultra-Rib	Aqueous Sales, Inc. 136530 Hailsham circle Midlothian, VA 23113

(39) WICK DRAINS – (Stan Hite)

Amer-Drain 407	American Wick Company 1209 Airport Road Monroe, NC 28110
Amer-Drain 407F	American Wick Company 1209 Airport Road Monroe, NC 28110
Amer-Drain 417	American Wick Company 1209 Airport Road Monroe, NC 28110
Amer-Drain 607	American Wick Company 1209 Airport Road Monroe, NC 28110
Mebra-Drain MD-88	Nilex Corporation 15171 E. Fremont Drive Englewood, CO 80112
Mebra-Drain MD-7407	Nilex Corporation 15171 E. Fremont Drive Englewood, CO 80112
U. S. Wick Drain	Palmatier Construction Co. Inc. 8867 King Road PO Box 442 Leland, NC 28451
Alidrain	Burcan Industries 111 Industrial Dr. Suite 19 Whitby, Ontario, Canada L1N5Z9
Geotech Geoinclusion Geotech drainage board to be use with GeoInclusion only.	Geotech Systems Corporation Dulles, VA

February 2005

List No. 40

(40) QUALIFIED SYSTEM W PAINTS – (Chemistry Lab)

The following paint systems have been prequalified for use, but the manufacturer must provide certification for each lot.

COAT	PAINT	COLOR	DRY FILM THICKNESS (mils)
#101 First Primer	W-103 Water-Guard	#595-30045	2.0 – 4.0
#102 Second Primer	W-112 Water-Guard	White	2.0 – 4.0
#103 Intermediate	W-XXX Water-Guard	As specified	2.0 – 4.0
Approved 1/97 MANUFACTURER – Elite Coatings, Gordon, GA (478) 628-2111			

**(41) SUPERPAVE GYRATORY COMPACTORS FOR ASPHALT CONCRETE MIXTURES –
(Asphalt Lab)**

INTERLAKEN TECHNOLOGY CORPORATION Gyratory Compactor, Model GYR-001
PINE INSTRUMENT COMPANY Gyratory Compactor, Model AFGC125X
PINE INSTRUMENT COMPANY Gyratory Compactor, Model AFG1 SGC
TEST QUIP INC. (Gilson) Brovold Gyratory Compactor, No Model Number
TROXLER ELECTRONIC LABORATORIES, INC. Gyratory Compactor, Model 4140

(42) **POLYETHYLENE (PE) PIPE PRODUCERS – (Physical Lab)**

Advance Drainage Systems (ADS) Bessemer City, NC Buena Vista, VA Ludlow, MA Muncy, PA Wooster, OH	Baughman Tile Co. Paulding, OH
Hancor, Inc. Findlay, OH (Olive St.) Findlay, OH (TR 172) Mebane, NC Springfield, VT Waverly, NY	Lane Enterprises Shippensburg, PA
Soleno Inc. Ibberville, QC McAdam, NB Hagersville, Ont	

List No. 43

(43) APPROVED YELLOW (LEAD FREE) THERMOPLASTIC PRODUCTS
- (Chemistry Lab)

The following thermoplastic formulations have been evaluated and found to have satisfactory initial nighttime color. Note that, as part of materials acceptance, all production batches will be tested for comparison with the originally submitted samples.

Ennis Paint (formerly Avery Dennison) (formerly Stimsonite)

Product No. 884188 (formerly YID-5GX-VA-DCA)
Product No. 884189 (formerly YID-5GX-VA-HRB)
Product No. 884186 (Y1D-5GX-VA-DCC)
Product No. 884187 (Y1D-5GX-VA-HRC)

Swarco

Product No. Swarolux 98 STR-115
Product No. Swarolux 98 STR-116
Product No. VYALF001
Product No. VYALF002

Ennis Paint (formerly Cataphote)

Alkyd Extrude (Yellow L. F. Thermoplastic)

Product No. 32101462
Product No. 32101464
Product No. 32101466
Product No. 32101468
Product No. 32101463

Alkyd Spray (Yellow L. F. Thermoplastic)

Product No. 32102462
Product No. 32102464
Product No. 32102466
Product No. 32102468

List No. 43 (cont.)

Ennis Paint (formerly LaFarge Road Marking and LDI)

Product No. E E VA AL F Y 99 1 (Made in Eastpoint, Ga.)
Product No. P E VA AL F Y 99 1 (Made in Pennsdale, Pa.)
Product No. E E VA AL F Y 99 2 (Made in Eastpoint, Ga.)
Product No. P E VA AL F Y 99 2 (Made in Pennsdale, Pa.)
Product No. E E VA AL F Y 99 3 (Made in Eastpoint, Ga.)
Product No. P E VA AL F Y 99 3 (Made in Pennsdale, Pa.)
Product No. EEVAAALFY998
Product No. EEVAAALFY04
Product No. EEVAAALFY06

Crown Technology

Product No. Ecotherm 06-YAX-AACF
06-YAX-01CF
06-YAX-00CF

Ennis Paint

Product No. Va-AK-SX-YNL-1

s.Dobco

Product No. Y1X0605
Y1S0605
Y1X0615
Y1X0625

(44) **APPROVED Q/A SUPPLIERS LIST – (Physical Lab)**

Supplier	Location
ACF Environmental	Chantilly, VA
ACF Environmental	Richmond, VA
Chesterfield Trading Co. Inc.	Richmond, VA
Colonial Construction Materials, Inc	Oilville, VA
Curtis Contracting, Inc.	West Point, VA
Form Services, Inc.	Manassas Park, VA
GeoProducts, LLC	Kilmarnock, VA
Saunders Oil (A. H. Harris & Sons, Inc.)	Richmond, VA
Whitlock Brothers, Inc.	Norfolk, VA
Virginia Construction Supply (A. H. Harris & Sons, Inc.)	Roanoke, VA

(45) QUALIFIED CCA WOOD TREATMENT PLANTS – (Chemistry Lab)

Any distributor can sell CCA treated lumber to the Virginia Department of Transportation (VDOT) provided one of the following two requirements are met:

- a. The distributor provides wood treated by a plant NOT on the list below but has had their product sampled and tested by VDOT before acceptance.
 (Allow a minimum of two weeks for sampling and testing).

OR

- b. The distributor provides wood treated by a plant on the list below and the treatment plant documentation accompanies the order. The plants listed below participate in VDOT's CCA Monitor Program.

Acme Wood Preserving	Princeton, WV	(304) 425-8769
Albemarle Wood Preserving	Albemarle, NC	(704) 982-2516
Amelia Lumber Co. Inc.	Amelia, VA	(804) 561-2155
Atlantic Wood Industries	Newsome, VA	(757) 654-9462
B & M Wood Products, Inc.	Manor, GA	(912) 283-0353
Bestway South Inc.	Stony Point, NC	(704) 585-6373
Burke-Parson-Bowlby	Stanton, KY	(606) 663-2837
Burke-Parson-Bowlby	Reedy, WV	(304) 927-1250
East Tennessee Forest Products	Moshien, TN	(423) 422-7134
Fortress Wood Products	Henderson, NC	(252) 492-3046
Gladys Timber Products	Gladys, VA	(434) 283-4744
Long Life Treated Wood, Inc.	Hebron, MD	(800) 451-3137
Madison Wood Preservers Inc.	Madison, VA	(800) 844-8383
South Atlantic Wood Treating	Elizabeth City, NC	(919) 264-3311
Universal Forest Products	Elizabeth City, NC	(252) 338-2821
Valley Timber Sales	Troy, VA	(540) 832-3646
Wood Preservers Inc.	Warsaw, VA	(804) 333-4022
Guardrail Components Only:		
Midwest Wood Treating, Inc.	Norwalk, OH	(419) 668-1610
Trinity Industries	Sunbright, TN	(214) 589-8135

(46) SIGN SHEETING AND INK QUALIFIED PRODUCTS LIST – (Chemistry Lab)

The following products have been prequalified, but the manufacturer must supply certification for each lot.

Products indicated by (*) are approved effective with the April 2004 advertisement.

Permanent signs, vertical panels and “STOP” side of sign panels:

Manufacturer	Product No.	Color	NTPEP Submittal No.
Avery Dennison	T-6500	White	SSM-98-15
Avery Dennison	T-6501	Yellow	SSM-96-009
Avery Dennison	T-6507	Green	SSM-98-15
Avery Dennison	T-6508	Red	SSM-98-15
Avery Dennison	T-6505	Blue	SSM-96-009
Avery Dennison	T-5509A	Brown	SSM-01-11
Ink:			
Avery Dennison	4930 series	Black, red, blue, green, yellow	
	4930 series	Clear coat (required under warranty)	
Note: Manufacturer's warranty requires use of the specified ink. Do not interchange inks and sheetings from different manufacturers.			

Manufacturer	Product No.	Color	NTPEP Submittal No.
Nippon Carbide	N812	White	SSM-97-7
Nippon Carbide	N512	White	SSM-97-7
Nippon Carbide	N804	Yellow	SSM-97-7
Nippon Carbide	N808	Green	SSM-97-7
Nippon Carbide	N805	Red	SSM-97-7
Nippon Carbide	N806	Blue	SSM-97-7
Nippon Carbide	N809	Brown	SSM-97-7
Ink:			
Nippon Carbide	3800N series		
Note: Manufacturer's warranty requires use of the specified ink. Do not interchange inks and sheetings from different manufacturers.			

List No. 46 (Cont.)

Manufacturer	Product No.	Color	NTPEP Submittal No.
Sheeting:			
3M	3870	White	SSM-97-1
3M	2870	White	SSM-97-3
3M	3871	Yellow	SSM-92-6
3M	2871	Yellow	SSM-97-3
3M	3877	Green	SSM-97-1
3M	2877	Green	SSM-97-3
3M	3872	Red	SSM-01-9
3M	2872	Red	SSM-97-3
3M	3875	Blue	SSM-97-1
3M	2875	Blue	SSM-97-3
3M	3879	Brown	SSM-97-1
3M	2879	Brown	SSM-97-3
Ink:			
3M	882	Traffic Sign Red	
3M	883	Blue	
3M	884	Yellow	
3M	885	Black	
3M	886	Orange	
3M	887	Brown	
3M	888	Green	
3M	891	Thinner	
3M	893	Violet	
3M	894	Lemon Yellow	
3M	895	Magenta	
Note: Manufacturer's warranty requires use of the specified ink. Do not interchange inks and sheetings from different manufacturers.			

Cones, tubular delineators			
Manufacturer	Product No.	Color	NTPEP Submittal No.
3M	3810	White	SSM-01-03
Avery Dennison	WR-6100 series	White	SSM-00-26

Drums and permanent sand barrels			
Manufacturer	Product No.	Color	NTPEP Submittal No.
3M	3810	White	SSM-01-03
3M	3811	Yellow	SSM-96-7
3M	3814	Orange	SSM-01-03
Avery Dennison	WR-6100 series	White	SSM-00-26
Avery Dennison	WR-6100 series	Orange	SSM-00-27

Traffic gates, trailer's back frame of portable changeable message signs, arrow boards and portable lights.			
Manufacturer	Product No.	Color	NTPEP Submittal No.
3M	981-32	White/red	
*Avery Dennison	V-5720	White/Red	
*Reflexite	V82 Classic	White/Red	
*Reflexite	V99 Daytime White	White/Red	
*Reflexite	V92 Daybright	White/Red	

Orange construction and maintenance signs, barrier vertical panels installed on concrete traffic barrier service, rear panel of truck mounted attenuators, temporary impact attenuators (except sand barrels) and the "SLOW" side of sign paddles			
Manufacturer	Product No.	Color	NTPEP Submittal No.
3M			
Sheeting:	3924	Fluorescent Orange	SSM-03-1028
	3954	Fluorescent Orange	SSM-02-26
Ink:	885	Black	
Avery Dennison			
*Sheeting:	W-7514	Fluorescent Orange	SSM-00-25
*Ink:	4930 series	Black	

Note: Manufacturer's warranty requires use of the specified ink. Do not interchange inks and sheetings from different manufacturers.

Temporary sand barrels			
Manufacturer	Product No.	Color	NTPEP Submittal No.
3M	3914	Fluorescent Orange	SSM-98-13

Object markers, nose of guardrails, permanent impact attenuators (except sand barrels), standard road edge delineators, special road edge delineators, barrier delineators, interstate road edge delineators, chevron panels, bridge end panel signs (VW-13) and railroad advance warning signs.

Manufacturer	Product No.	Color	NTPEP Submittal No.
3M	3990	White	SSM-99-5
3M	3991	Yellow	SSM-94-5
*Avery Dennison	T-7500	White	SSM-0766
*Avery Dennison	T-7501	Yellow	SSM-0869

Type III barricades			
Manufacturer	Product No.	Color	NTPEP Submittal No.
3M	DG4-LOW	White/orange	SSM-98-11

Pedestrian, bicycle and school crossing signs including advance signing, school portion of school speed limit signs, school bus stop ahead signs and "Share The Road" signs when used with bicycle signs

Manufacturer	Product No.	Color	NTPEP Submittal No.
3M			
Sheeting:	3983	Fluorescent yellow-green	SSM-95-4
Ink:	885	Black	

Note: Manufacturer's warranty requires use of the specified ink. Do not interchange inks and sheetings from different manufacturers.

Roll-up signs			
Manufacturer	Product No.	Color	NTPEP Submittal No.
3M			
Sheeting:	RS-20-CW	White	MS 09195
	RS-24-CW	Fluorescent Orange	MS 09177
Ink:	1805	Black	

Note: Manufacturer's warranty requires use of the specified ink. Do not interchange inks and sheetings from different manufacturers.

(47) ACRYLIC PAINT FOR ALUMINUM AND GALVANIZED SURFACES – (Chemistry Lab)

<u>Manufacturer</u>	<u>Paint</u>	<u>Dry Film Thickness (DFT)</u>	<u>Color</u>
<u>Carboline Paint Co.</u> Primer: Top Coat:	Carbocrylic 120 Carbocrylic 3350	1.0 – 2.0 mils 2.0 – 3.0 mils	White As Specified
<u>Elite Coatings</u> Primer: Top Coat:	W – 186 Metal Primer Water Guard Series	3.0 mils 3.0 mils	Buff As Specified
<u>M.A.B. Paints</u> Primer: Top Coat:	HydroPrime (073-189) Seashore Enamel (024 Line)	1.5 – 2.0 mils 1.5 – 2.0 mils	White As Specified
<u>Porter Coatings</u> Primer: Top Coat:	212 DTM Acrylic 2809 Series	2.0 mils 2.5 – 3.0 mils	Red As Specified
<u>Sherwin Williams</u> Primer: Top Coat:	B71Y1 DTM Wash B66-200 Series Finish	0.7 – 1.3 mils 2.5 – 4.0 mils	Yellow – Green As Specified

Surface Preparation

All aluminum and galvanized surfaces shall be cleaned in accordance with SSPC-SP1 to remove oil, dirt, grease and any foreign matter that may be present. Secondly, the surface shall be cleaned using an acid etching solution (agreed upon by the manufacturer of the paint) to remove any aluminum oxide or zinc oxide present on the surface. Once etching is complete, the surface shall be washed with clean potable water to neutralize the acid. All of the above procedures are critical to assure proper adhesion and durability of the coating when painting either of these surfaces.

It may be necessary to sweep blast both aluminum and galvanized surfaces after cleaning the surface according to SSPC SP-1. This may be used as an alternative to acid etching. This type of surface preparation should be evaluated on a case-by-case basis and in conjunction with the manufacturer's recommendations.

(48) APPROVED TYPE F CONSTRUCTION MARKINGS – (Chemistry Lab)

All waterborne paint markings shall be applied at a wet film thickness of 15 ± 1 mil and a glass bead application rate of 6 pounds per gallon.

WATERBORNE PAINT CLASS I

Manufacturer	Product No.	NTPEP Submittal No.
White		
Sherwin Williams	BP-14016	STR-97-41-AL
	BP-14019	STR-97-44-AL
	BP15652	STR-98-PA-135
	BP15622	STR-98-PA-150
	BP17312	PMM(2000PA)-170
	BP17313	PMM(2000PA)-171
	BP17316	PMM(2000PA)-174
Ennis Paint (formerly LaFarge Road Markings and Centerline)		
	CL-6000	STR-96-64-PA
	CL-6004	STR-96-68-PA
	CL-7018	STR-97-69-AL
	CL-8210	STR-98-PA-96
	CL-8214	STR-98-PA-100
	CL-8216	STR-98-PA-102
	CL-8218	STR-98-PA-104
	CL-8220	STR-98-PA-106
	CL-8222	STR-98-PA-108
Ennis Paint (formerly LaFarge Road Markings and Linear Dynamics)		
	LD96-1002	STR-96-85-PA
	LD96-1008	STR-96-91-PA
	LD971001C	STR-97-138-AL
	LD981001	STR-98-PA-158
	LD981002	STR-98-PA-159
	LD981003	STR-98-PA-160
	LD981004	STR-98-PA-161
	LD981005	STR-98-PA-162
Ennis Paint (formerly LaFarge Road Markings)		
	LRMOOWB-19	PMM(2000PA)-110
	LRMOOWB-20	PMM(2000PA)-111
Ennis Paint	Douglas 303-98	STR-98-PA-214
	Ennis EP200W13	STR-98-PA-17
	Ennis EP200W14	STR-98-PA-18
	Ennis EP200W16	STR-98-PA-20
	EP415W03	PMM(2000PA)-61
	EP415W04	PMM(2000PA)-62

WATERBORNE PAINT CLASS I

Manufacturer	Product No.	NTPEP Submittal No.
Yellow		
Sherwin Williams	BP-14021	STR-97-46-AL
	BP15611	STR-98-PA-139
	BP15623	STR-98-PA-151
	BP17314	PMM(2000PA)-172
Ennis Paint (formerly Linear Dynamics) and LaFarge Road Markings	LD96-1009	STR-96-92-PA
	LD981009	STR-98-PA-165
	LD981010	STR-98-PA-166
Ennis Paint (formerly LaFarge Road Markings)	LRMOOWB-31	PMM(2000PA)-122
Aexcel	72Y-AO65	STR-96-148-PA
Ennis Paint	Douglas 306-98	STR-98-PA-217
	Douglas 307-98	STR-98-PA-218
	Ennis EP200Y-15	STR-98-PA-26
	Ennis EP200Y-18	STR-98-PA-29
	EP415Y03	PMM(2000PA)-66
	EP415Y04	PMM(2000PA)-67
	EP415Y05	PMM(2000PA)-68
	EP415Y06	PMM(2000PA)-69

List No. 48 (Cont.)

WATERBORNE PAINT CLASS II

Manufacturer	Product No.	NTPEP Submittal No.
White		
Sherwin Williams	BP-14016	STR-97-41-AL
	BP15652	STR-98-PA-135
	BP15622	STR-98-PA-150
	BP17312	PMM(2000PA)-170
	BP17313	PMM(2000PA)-171
Ennis Paint (formerly Centerline and LaFarge Road Markings)	CL-8214	STR-98-PA-100
	CL-8216	STR-98-PA-102
	CL-8218	STR-98-PA-104
	CL-8220	STR-98-PA-106
	CL-8222	STR-98-PA-108
Ennis Paint (formerly Linear Dynamics) and LaFarge Road Markings	LD981001	STR-98-PA-158
	LD981004	STR-98-PA-161
	LD981005	STR-98-PA-162
Ennis Paint	Douglas 303-98	STR-98-PA-214
	Ennis EP200W13	STR-98-PA-17
	Ennis EP200W14	STR-98-PA-18
	Ennis EP200W16	STR-98-PA-20
	EP415W03	PMM(2000PA)-61
	EP415W04	PMM(2000PA)-62
Yellow		
Sherwin Williams	BP-14021	STR-97-46-AL
	BP15623	STR-98-PA-151
	BP17314	PMM(2000PA)-172
Ennis Paint LaFarge Road Markings	LRMOOWB-31	PMM(2000PA)-122
Ennis Paint	Douglas 306-98	STR-98-PA-217
	Douglas 307-98	STR-98-PA-218
	EP415Y03	PMM(2000PA)-66
	EP415Y04	PMM(2000PA)-67
	EP415Y05	PMM(2000PA)-68
	EP415Y06	PMM(2000PA)-69

August 2003

**(49) QUALIFIED SEALERS AND TOPCOATS FOR METALLIZED SURFACES –
(Chemistry Lab)**

Note: Effective with the February 2005 advertisement, all approved paint systems must not exceed the 2.8 lb/gal/ VOC requirement. Also paints manufactured after January 1, 2005 must meet these requirements if supplied to or applied in the Northern Virginia VOC Emission Control Area. This consists of the counties of Arlington, Fairfax, Loudoun, Prince William and Stafford, and the cities Alexandria, Fairfax, Falls Church, Manassas, and Manassas Park City.

The following sealer/topcoat systems have been prequalified for use, but the manufacturer must provide certification for each lot.

Manufacturer	DFT, mils
Carboline:	
Rustbond FC	1.0-2.0
Carbothane 134 HG or 134 HS topcoat	2.0-3.0
ICI Devoe Coatings:	
Pre-Prime 167	0.5-1.5
Devthane 378 topcoat	2.0-3.0
Xymax:	
Monolock PP	1.5-2.5
Bridge Finish topcoat	1.0-2.0

(50) LIQUID ASPHALT SOURCES ON VA ASPHALT ACCEPTANCE PROGRAM -
(Asphalt Lab)

Code Number	Refinery	Testing	Terminal
1	Citgo	Paulsboro, N.J.	Bristol Asph. Prod.-Bristol,Va.
2	BP-Amoco Petro. Prod.	PRI Asphalt Technologies, Inc. Tampa, FL	Associated Asphalt,Inc.-Roanoke,Va.
4	Valero – Kinger Morgan	Richmond,Va.-Cutbacks/Emulsions	Richmond, VA
6	Chevron, USA	Perth Amboy,N.J.-PG Binders	Baltimore, Md.
9	Seaco	Suit-Kote Cortland,N.Y.	Columbia,S.C.
10	Citgo Asphalt Co.	Savannah Refinery-PG Binders	Savannah Refinery-Savannah,Ga.
11	Sems Materials	Newport News, VA.-Cutbacks/Emulsions	Newport News, VA
12	St Services (Citgo)	Dumfries, VA-Cutbacks/Emulsions	Dumfries, VA
13	Citgo Asphalt Co.	Paulsboro,N.J.-PG Binders	ST Services-Piney Point,Md.
14	Marathon Asland Petro. LLC-Southern States	Catlettsburg, Ky.-PG Binders	Knoxville, Tn.
15	Sems Materials	York, Pa.-PG Binders	Baltimore,Md.
16	Apex Oil Co./Valero	Intertek Testing-Essington,Pa.-PG Binders	Chesapeake, Va.
17	ST Services (Citgo) (PG-Binders)	Paulsboro, NJ-PG Binders	Dumfries, Va.
21	Koch Materials	York, Pa.-PG Binders	Newport News,Va.
22	Trigeant EP, LTD	Pensacola, FL.-PG Binders	Apex,N.C.
23	Citgo Asphalt Co.	Paulsboro, N.J.-PG Binders	St Services Terminal-Balt.,Md.
24	Citgo Asphalt Co.	Paulsboro,N.J.-PG Binders	Regr.Enterprises-Hopewell,Va.
26	Citgo Asphalt Co.	Paulsboro,N.J._PG Binders	IMTT-Chesapeake,Va.
27	Central Oil	Richmond, VA-Emulsions	Richmond, VA
28	Asphalt Emulsions Inc.	Richmond, VA-Emulsions	Richmond, VA
29			
30	Multiple	ST Services(Citgo)-Dumfries,Va.-Emuls.	Superior Paving-Centerville,Va.
32	Hammaker East,Inc.	Intertek Testing-Essington,Pa.-Emul.-Cuttb.	Chambersburg,Pa.
33	Asphalt Emulsions Inc.	Manassas, VA-Emulsions	Manassas, VA
34	Central Oil	Roanoke, VA-Emulsions	Roanoke, VA
35	Citgo Asphalt Co.	Savannah,Ga.-PG Binders	Chicago,IL.
36	Central Oil	Greensboro, NC-PG Binders	Greensboro,N.C.
37	Trigeant EP, LTD	Pensacola,FL.-PG Binders	Winston Salem,N.C.
38	Valero	Intertek Testing-Essington,Pa.-PG Binders	Trumbull Terminal-Kearney,N.J.
39	Sems Materials	York,Pa.-PG Binders	Pettys Island Pennsauken, NJ

Code Number	Refinery	Testing	Terminal
40	Citgo Asphalt Co.	Savannah,Ga.-PG Binders	Wilmington-River Terminal-Wilmington,N.C.
41	Citgo Asphalt Co.	Savannah,Ga.-PG Binders	Chem Serve Tirminal-Wilmington,N.C.
42	Valero	Intertek Testing-Essington,Pa.-PG Binders	Paulsboro,N.J.
43	Marathon Ashland Petro.LLc-Big Sandy	Ashland, KY-PG Binders	Ashland, KY
44	Conoco Phillips Binders/Cutbacks)	Asphalt Institute-Lexington,Ky.	Volunteer Asphalt Co.-Knoxville.Tn.
45	Trumbull Asphalt	Intertek Testing-Essington,Pa.-PG Binders	ST Services-Piney Point,Md.
46	Valero Marketing & Supply Co.	Intertek Testing-Essington,Pa.-PG Binders	General Chem.-Balt.,Md.
47	Advanced Asph. Technologies	Sterling, VA-PG Binders	Sterling, VA
48	Suit-Kote Corp.	Cortland, NY-PG Binders	Cortland, NY
49	Trumbull Asphalt	Summit,IL.-PG Binders	Westway TerminaBalt.,Md.
51	Sems Materials	York,Pa.-PG Binders	ST Oil Terminal-Perth Amboy,N.J.
52	Valero/Trumbull	Intertek Testing-Essington,Pa.-PG Binders	Apex Terminal-Balt.,Md.
53	TRIGEANT, LTD	Corpus Christi,Tx.-PG Binders	ST Services-Piney Point,Md.
54	Seaboard Asphalt	Intertek Testing-Essington,Pa.-Cutbacks	Balt.,Md.
55	APAC, Inc. BP Amoco, Naperville, IL	PRI Asphalt Technologies, Tampa, Florida	Greensboro,N.C.
56	Southland Oil Co.	Sanderville,Ms.-PG Binders	Associated Asph.-Roanoke,Va.
57			
58	Apex Oil Co. (Valero)	Intertek Testing-Essington,Pa.-PG Binders	Wilmington,N.C.
59	Central Oil	Central Oil-Roanoke,Va.-Emulsions	Central Oil-Balt.,Md.
60	Valero-ST Services-Balt.,Md.	Intertek Testing-Essington,Pa.-PG Binders	ST Services-Balt.Md.
61	Valero-Marketing & Supply Co.	Intertek Testing-Essington,Pa.-PG Binders	Petro. Fuel & Terminal Co.-Balt.,Md.
62	Asphalt Emulsions,Inc.	Asphalt Emulsions, Emulsions-Dunn,N.C.	Dunn, N.C.
63	Citgo Asphalt Co.	Paulsboro,N.J.-PG Binders	Bitumar-Balt.,Terminal-Balt.,Md.
64	The Shelly Co.	Thornville,Ohio	Thornville,Ohio
65	Trigeant, LTD.	Corpus Christi, Texas_PG Binders	Piney Point, Md.
66	Valero-Bitumar USA,Inc.-Balt.,Md.	Intertek Testing-Essington,Pa.-PG Binders	Bitumar USA Terminal-Balt.,Md.

(51) APPROVED 2% COPPER NAPTHENATE – (Chemistry Lab)

The following products have been approved for field use on saw cut CCA-treated wood posts.

Jasco Termin-8

Behr #90

W. M. Barr Coppo-W

Green's Copper

(52) ARTICULATED BLOCKS FOR SLOPE PROTECTION & DITCHLINING – (Asset Management Div.)

Armorflex	Armortec, Inc. Suite 1990, Peachtree Corners Plaza Norcross, Georgia 30071 (800)241-6313 Note: Mats come in 320 sq. ft. sections. Requires a crane to lift sections into place.
Hexagonal Interlocking Panels	Ecologigal Technology Company, Inc. Thesauer Weg D-04460 Kitzen Germany +4934296/779-20 +4934296/779-33 Fax UmTec@aol.com
NOR-Bloc	Norwood, Inc. 222 George Street Beckley, West Virginia 25801 (304)252-6517 Note: Individual interlocking blocks.
Cable Concrete	Permatile Concrete Products Co. P. O. Box 2049 100 Beacon Road Bristol, Virginia 24203-2049 (540)669-5332 Note: Mats come in 2 ft. x 4 ft. sections or 16 ft. x 4 ft. sections.
GeoLink	Petratech, Inc. 4444 West 78 th Street Minneapolis, MN 55435 (612)897-1617 (612)897-3513 Fax Note: Mats come in either 4" x 12" x 16" or 6" x 12" x 16" blocks.

(53) EROSION CONTROL MULCHES – (Asset Management Div.)

Straw of Hay Mulch applied at a rate of 3,000 lbs. per acre (3,600 kg/hectare) so as to provide a minimum 95% coverage to the soil. Straw or hay shall be tacked with fiber mulch applied at a rate of 1,000 lbs. per acre, an approved mulch tackifier applied as recommended by the manufacturer, punching, or disking into the soil, or other method approved by the Engineer.

Manufacturers of Mulch Products acceptable for use as Erosion Control Mulch:

Spraymat	Central Fiber Corp. 1525 Waynesburg Drive, S.E. Canton, Ohio 44707 (888)452-2630 Jeff Ward, representative
Soil Guard	Mat, Inc. 12402 Highway 2 Floodwood, MN 55736
Soil Cement	Mid-West Industrial Supply Co., Inc. 14330 Heathland Terrace Midlothian, Virginia 23113 (804)794-4403 Hal Martin, representative
Airtrol	United States Gypsum Co. 125 South Franklin Street Chicago, IL 60606 (312)214-9192
USG Enviro-Shield Brand Bonded Fiber	United States Gypsum Co. 125 South Franklin Street Chicago, IL 60606 (312)214-9192

List No. 54

(54) FIBER MULCH SUPPLIERS – (Please see list No. 11)

(55) MULCH TACKIFIER SUPPLIERS – (Asset Management Div.)

TacPac GT	Central Fiber Corp. 4814 Fiber Lane Wellsville, KS 66092-0749 contact Herod Seeds (804)643-7683
Contack Contack AT	Conwed Fibers 1850 Tate Blvd., S.E. Suite 350 Hickory, NC 28601 (800)366-1180
EcoTak OP-5 EcoTak SAT-11	Eastern Products, Inc. One Copperfield Way Mahwah, New Jersey 07430-3200 (201)684-0463, (201)684-0464 FAX EPINJ@aol.com
EC 1000 EC 3000 ECT 3000 (copolymacrylamide)	Erosion Control Technologies, Inc 3380 Route 22 West, Unit 3A Branchburg, NJ 08876 P. O. Box 5383 North Branch, NJ 08876 (800)245-0551, (908)707-1445 FAX
A500 Hydro Stik	Finn Corp. 9281 LeSaint Drive Fairfield, Ohio 45014 (800)543-7166
Jonathan Green Hydrogreen Tackifier Joanthan Green Super Tackifier	Joanthan Green Turf Products P. O. Box 326 Farmingdale, New Jersey 07727 (800)526-2303, (908)938-5788 FAX
Progacyl AG-50	Lyndal Chemical Co. P.O.Box 1740 Coronet Dr. Dalton, GA. 30720 (404)259-4831
Mulch Mate Supertac StrawMate Tackifier	PRS Materials, Inc. 520 Pusey Avenue Collingdale, PA 19023 prsm@juno.com (610)532-3960, (610)534-1555 Fax (800)432-3966
Dirt Glue	Unocal Corp. Unocal Chemicals Division 1445 Alondra Blvd. La Mirada, CA. 90638 (714)228-4749

(56)STANDARD EC-2 EROSION CONTROL BLANKETS** – (Asset Management Div.)**

(VELOCITY 2.5 - 4.0 f.p.s.)	
Curlex Curlex I Curlex II Straw, Premier, Single, Green Net Straw, Premier, Double, White Net	American Excelsior Company Earth Science Division 850 Avenue H East Arlington, Texas 76011 (817) 640-1555, (817) 649-7816 Fax
Anti-Wash/Geojute	Belton Industries 8613 Roswell Road, Suite 200 Atlanta, Ga. 30350 (800) 225-4099, (770) 992-6361 Fax
Jute Mesh	Bemis Brothers Bag Company St. Louis, Mo.
Jute Mesh	Belting Bagging Company Belton, South Carolina
Dekowe 700 Dekowe 900	Belton Industries Hamby Road Belton, South Carolina 29627
	Dixie Manufacturing 110 Colley Avenue Norfolk, Virginia 23510 attn: Mr. John Uchmanowicz (757)625-8251
East Coast ECS-1 East Coast ECS-2 East Coast ECSC-2 ECX-1 ECX-2	East Coast Erosion Blankets, LLC 443 Bricker Road Bernville, PA 19506 Diane M. Hitt (610) 488-8496, Fax (610) 488-8494
Earthlock St'd. Straw – Proguard SS High Velocity Straw – Proguard DS St'd. Excelsior – Everhold XL1 High Velocity Excelsior – Everhold XL2	Erosion Control Systems, Inc. 9015 Energy Lane Northport, Alabama 35406 (205)333-3080, (205) 333-3090 Fax
Greenfix WS05 Straw Blanket Greenfix WSO5B Straw Blanket Greenfix WSO52 Straw Blanket Greenfix WSO72 Straw Blanket Greenfix WSO72B Straw Blanket Greenfix CFS072B Straw -Coir Blanket Greenfix CFS072R Straw -Coir Blanket Greenfix CFO72RR Coir Blanket Greenfix CFO72B Coir Blanket	Greenfix America P. O. Box 23310 Santa Barbara, California 93121 (800)929-2184 (888)GREENFX
Jute Erosion Control Matting	The Griffith Bag Company, Inc. 510 Waterman Drive Harrisonburg, VA 22801 (800)433-2615, (540)433-2616
Soil Saver Heavy Jute Mesh	Jim Walls Company Commerce Plaza, Suite 109 12820 Hillcrest Road Dallas, Texas 75230

(VELOCITY 2.5 - 4.0 f.p.s.)	
JMD Jute Mesh	JMD Manufacturing 5401 Progress Blvd. Bethel Park, PA. 15102
Jute Mesh	L & M Bag and Supply Co., Inc. 541 Hazel Avenue P.O. Box 865 Nashville, Georgia 31639
Jute Mesh	Ludlow Manufacturing & Sales Co. Needham Heights 94, MA
S-75, SC-150,C-125, S150, S75BN, S150BN, SC150BN, C125BN	North American Green 14649 Highway 41 North Evansville, Indiana 47711 (812)867-6632
RS-1 Straw RS-2 Straw	Robex LLC 5830 Highway 161 Springfield, Tennessee 37172 (615) 382-3300, (877) 56ROBEX
BioD-Mat 70 BioD Mat 90	Rolanka International, Inc. 16476 Mill Court Morrows, Georgia 30260 (404)961-0331
S-1 S-2 CS-2 C-2	SI Geosolutions 6025 Lee Highway, Suite 435 Chattanooga, TN 37421 (800)621-0444, (423)485-9068 Fax
Verdyol Standard ERO-MAT Verdyol High Vel. ERO-MAT Verdyol Excelsior Standard Verdyol Excelsior High Vel.	Verdyol Alabama, Inc. P.O.Box 605 407 Miles Pkwy. Pell City, AL. 35125-0605 (205) 338-4411, (205) 338-4595 Fax
Terraguard SS Terraguard DS	WEBTEC, Inc. P. O. Box 19729 Charlotte, NC 28219 Dave Snyder (800)438-0027, (704)394-7946 Fax
X-Cel Permamat 100 X-Cel SS2 X-Cel SR-1 X-Cel Regular X-Cel Superior X-Cel CC-4	Western Excelsior Corp. 901 Grand Avenue, P. O. Box 659 Mancos, CO 81328 (970) 533-7412, (970) 533-7211 Fax (800) 239-3224
Poplar Excelsior Stitched Blanket Winters St'd. H. V. Straw Blankets	Winters Excelsior Company, Inc. P. O. Box 39, Hwy 21 McWilliams, Alabama 36753
Koir Mat 400	Nedia Enterprises, Inc. 22187 Vantage Pointe Place Ashburn, VA 20148 (571) 223-0200 (571) 223-0202 Fax

§244.02 (k)(2). Soil retention mats shall consist of a machine-produced mat of wood fibers, wood excelsior, or manmade fiber that shall intertwine or interlock. Matting shall be nontoxic to vegetation and germination of seed and shall not be injurious to the unprotected skin of the human body.

Mats shall be of consistent thickness, with fiber evenly distributed over its entire area, and covered on the top and bottom side with netting having a high web strength or covered on the top side with netting having a high web strength and machine sown on maximum 2-inch centers along the longitudinal axis of the material. Netting shall be entwined with the mat for maximum strength and ease of handling.

(57) **STANDARD EC-3 TYPE A, TYPE B, & TYPE C SOILS STABILIZATION MATS**– (Asset Management Div.)

TYPE A MATS (Velocity 4.0 - 7.0 f.p.s.)	
ECP-2 ECC-2	East Coast Erosion Blankets, LLC 443 Bricker Road Bernville, PA 19506 Diane M. Hitt (610) 488-8496, Fax (610) 488-8494
Earthlock Enkamat 7003 (formerly 7005) Enkamat 7010 Enkamat II	Colbond Inc. 1301 Sand Hill Road P.O. Box 1057 Enka, NC Attn: Jason Willis (800) 365-7391, (828) 665-5009 fax (Formerly Erosion Control Systems Northport, Al. 35476)
Greenfix CF072RP	Greenfix America P. O. Box 23310 Santa Barbara, California 93121 (800)929-2184 (888)GREENFX
MacMat N10 MacMat N20 MacMat N6P MacMat N6G MacMat N8P MacMat N8G	Maccaferri Environmental Solutions 10303 Governor Lane Blvd Williamsport, MD 21795-3116 (301) 223-6910 (301)223-6134 Fax
C350 SC250 P300	North American Green 14649 Highway 41 North Evansville, Indiana 47711 (812)867-6632
Landlok 435	Synthetic Industries 4019 Industry Drive Chattanooga, Tennessee 37416 (800)621-0444, (423)499-0753 Fax
Miramat Regular (18 oz./sq.yd.)	TC Mirafi 365 S. Holland Drive Pendergrass, Georgia 30567 (800)685-9990 e589, (706)693-4400 Fax
Miramat TM8	Ten Cate Nicolon 365 South Holland Dr. Pendergrass, GA 30567 (706) 693-2226
*Mats listed in the Type B category may be substituted for the Type A material at no additional cost to VDOT.	

TYPE B MATS (Velocity 7.0 - 10.0 f.p.s.)	
Recyclex	American Excelsior Company Earth Science Division 850 Avenue H East Arlington, Texas 76011 (817) 640-1555, (817) 649-7816 Fax
ECC-3	East Coast Erosion Blankets, LLC 443 Bricker Road Bernville, PA 19506 Diane M. Hitt (610) 488-8496, Fax (610) 488-8494
Enkamat 7012 Enkamat 7018 Enkamat 7020 Enkamat 7210 Enkamat 7220 Enkamat II	Colbond Inc. 1301 Sand Hill Road P.O. Box 1057 Enka, NC Attn: Jason Willis (800) 365-7391, (828) 665-5009 fax (Formerly Erosion Control Systems Northport, Al. 35476)
PEC-MAT	Greenstreak, Inc. 3400 Tree Court Ind. Blvd. St. Louis, Missouri 63122 (800)325-9504, (314)225-9854 Fax
MacMat N10 MacMat N20 MacMat N6P MacMat N6G MacMat N8P MacMat N8G	Maccaferri Environmental Solutions 10303 Governor Lane Blvd Williamsport, MD 21795-3116 (301) 223-6910 (301)223-6134 Fax
P-300 P300P C350 SC250	North American Green 14649 Highway 41 North Evansville, Indiana 47711 (812)867-6632, (812) 867-0247 Fax
Bon Terra America SFB Landlok 435 Landlok 450 Landlok 460 Landlok 1060	Synthetic Industries 4019 Industry Drive Chattanooga, Tennessee 37416 (800)621-0444, (423)499-0753 Fax
Miramat Heavyweight (24 oz./sq.yd.) Mirafi TM 8	TC Mirafi 365 S. Holland Drive Pendergrass, Georgia 30567 (800)685-9990 e589, (706)693-4400 Fax

TYPE B MATS (continued) (Velocity 7.0 - 10.0 f.p.s.)	
Miramat TM8	Ten Cate Nicolon 365 South Holland Dr. Pendergrass, GA 30567 (706) 693-2226
TB1000 TM3000	Tensar Earth Technologies 5775-B Glenridge Drive Lakeside Center, Suite 450 Atlanta, Georgia 30328-5363 (800)292-4459, (404)705-9650 Fax
TerraGuard 44P TerraGuard 45P	WEBTEC, Inc. P. O. Box 240302 Charlotte, NC 28224-0302 (800)438-0027, (704)394-7946 Fax
X-Cel PP-5-10 PP5-8	Western Excelsior Corporation 901 Grand Avenue P.O. Box 659 Mancos, Colorado 81328 (800) 833-8573, (970) 533-7211 Fax

TYPE C MATS (Slopes 3:1 and flatter)	
Enkamat 7003 (formerly 7005) Enkamat 7010	Colbond Inc. 1301 Sand Hill Road P.O. Box 1057 Enka, NC Attn: Jason Willis (800) 365-7391, (828) 665-5009 fax (Formerly Erosion Control Systems Northport, Al. 35476)
Greenfix CF072RP	Greenfix America P. O. Box 23310 Santa Barbara, California 93121 (800)929-2184 (888)GREENFX
MacMat N6P MacMat N6G MacMat N8P MacMat N8G	Maccaferri Environmental Solutions 10303 Governor Lane Blvd. Williamsport, MD 21795-3116 (301)223-6910, (301) 223-6134 Fax
C350 SC250	North American Green 14649 Highway 41 North Evansville, Indiana 47711 (812)867-6632, (812) 867-0247 Fax
Landlok 435	Synthetic Industries 4019 Industry Drive Chattanooga, Tennessee 37416 (800)621-0444, (423)499-0753 Fax
Miramat Regular (18 oz./sq.yd.)	TC Mirafi 365 S. Holland Drive Pendergrass, Georgia 30567 (800)685-9990 e589, (706)693-4400 Fax
Miramat TM8	Ten Cate Nicolon 365 South Holland Dr. Pendergrass, GA 30567 (706) 693-2226
Tenax Multimat	Tenax Corp. 4800 East monument Street Baltimore, Maryland 21205 (410)522-7000, (410)522-7015 Fax (800)356-8495
X-Cel PP-5-10 PP5-8	Western Excelsior Corporation 901 Grand Avenue P.O. Box 659 Mancos, Colorado 81328 (800) 833-8573, (970) 533-7211 Fax

TYPE C MATS (Slopes steeper than 3:1)	
Enkamat S Enkamat 7018	Colbond Inc. 1301 Sand Hill Road P.O. Box 1057 Enka, NC Attn: Jason Willis (800) 365-7391, (828) 665-5009 fax (Formerly Erosion Control Systems Northport, Al. 35476)
MacMat N6P MacMat N6G MacMat N8P MacMat N8G	Maccaferri Environmental Solutions 10303 Governor Lane Blvd. Williamsport, MD 21795-3116 (301)223-6910, (301) 223-6134 Fax
Miramat TM8	Ten Cate Nicolon 365 South Holland Dr. Pendergrass, GA 30567 (706) 693-2226
P550	North American Green 14649 Highway 41 North Evansville, Indiana 47711 (812)867-6632, (812) 867-0247 Fax
Pyramat 4700	Synthetic Industries 4019 Industry Drive Chattanooga, Tennessee 37416 (800)621-0444, (423)499-0753 Fax

(58) **STANDARD EC-4 TYPE 2, ROCK CHECK DAM – (Asset Management Div.)**
for Synthetic Material Substitution

Substitutions may be made with the approval of the Engineer at no additional cost to VDOT.	
Sediment Log	American Excelsior Company 850 Avenue H East P. O. Box 5067 Arlington, TX 76005-5067 (817) 640-1555, (817) 649-7816 Fax (800) 777-SOIL
Triangular Silt Dike	Triangular Silt Dike Company, Inc. 608 Greenwood Midwest City, OK 73110 Attn: Jason Roach (405) 741-7406
Filtrexx DitchChexx	Filtrexx International 35841 Grafton Eastern Road Grafton, OH 44044 (440) 926-2607

(59) **ST'D. EC-6, INLET PROTECTION APPROVED LIST – (Asset Management Div.)**
for Synthetic Materials Substitution

Substitutions may be made with the approval of the Engineer at no additional cost to VDOT.

Curb Drop Inlet	
Sediment Log	American Excelsior Company 850 Avenue H East P. O. Box 5067 Arlington, TX 76005-5067 (817) 640-1555, (817) 649-7816 Fax (800) 777-SOIL
Gutter Buddy	ACF Environmental 2831 Cardwell Road Richmond, VA 23234 (800) 223-9021, (804) 743-7779 Fax
Beaver Dam True Dam	Dandy Products 2011 Harrisburg Pike, Suite R Grove City, OH 43123 (800) 591-2284, (614) 875-6305 Fax
Gutter Gator	ACF Environmental 2831 Cardwell Road Richmond, VA 23234 (800) 223-9021, (804) 743-7779 Fax
Filtrexx InletSoxx	Filtrexx International 35481 Grafton Eastern Road Grafton, OH 44044 (440) 926-2607

(60) ST'D. EC-8, DEWATERING BAG APPROVED LIST – (Asset Management Div.)

Material specifications may be reviewed in Section 245 of the Road and Bridge Specifications.

Dirtbag® 55	ACF Environmental 2831 Cardwell Road Richmond, VA 23234 (800) 223-9021, (804) 275-4132 Fax ACF100@aol.com	Expires 10/05
Filter Bag	GeoProducts, L. L. C. 161 Technology Park Drive Kilmarnock, VA 22482 (800) 448-4505, (804) 435 - 7462	Expires 10/05
Ultra-Dewatering Bag	UltraTech 11542 Davis Creek Court Jacksonville, FL 32256 (800) 353-1611 info@stormwater-products.com	Expires 10/05
FB1 FB3 FB4	Frank Roberts & Sons, Inc 1130 Robertsville Rd Punxsutawney, PA 15767 Ph 800-262-8955 or 814-938-5000 Fax 814-938-0880 frankroberts@adelphia.net	Expires 8/06

(61) GRAY IRON CASTING MANUFACTURERS ON QA/QC PROGRAM – (Physical Lab)

East Jordan Iron Works, Inc.	301 Spring Street East Jordan, Michigan, USA 49727
U.S. Foundry and Manufacturing Corporation	8351 N.W. 93 Street Medley (Miami), Florida, USA 33166-2096

(62) CABLE GROUTS – (Physical Lab)

GS 1205	Degussa Building Systems
SIKA 300PT	Sika Corporation
Euco Cable Grout PTX	Euclid Chemical Company

(63) GEOGRIDS – (Stan Hite)*

Miragrid 5T	Mirafí, Inc. Charlotte, NC
Paragrid	Mirafí, Inc. Charlotte, NC
Signode Geogrid TNX 250	Signode Corporation Glenview, IL
Signode Geogrid TNX 5001	Signode Corporation Glenview, IL
Tensar Geogrids	The Tensar Corporation Morrow, GA
Terramesh	MacCafferri , Inc. Williamsport, MD

*This is a list of geogrids that have been used on previous VDOT projects. These products should only be used if they meet project specific strength requirements or were specifically recommended by the Design Engineer.

(64) HYDRAULIC BARRIERS FOR USE IN STORM WATER RETENTION – (Stan Hite)

Bentofix Thermal Lock Clay Liner	GSE Lining

(65) APPROVED SOUND BARRIER SUPPLIERS – (Amy Costello)

Precast Concrete (Companies provide both absorptive and reflective)	Product Name	Contact Name
Concrete Precast Systems 4215 Lafayette Center Dr., Suite 1 Chantilly, VA 20151 703.222.9700 www.cpsprecast.com	DuBrook Whisper Wall®	Mr. Bob Glasgow
Faddis Concrete Products 3515 Kings Highway Dowington, Pennsylvania 19335 800.777.7973 (Absorptive barrier approved 3/11/2002) www.Faddis.com	AcoustaCrete®	Mr. Gary Figallo
Smith-Midland Corporation P.O. Box 300 Midland, Virginia 22728 540.439.3266 www.smithmid.com	Durisol®	Mr. Ashley Smith
The Reinforced Earth Company 8614 Westwood Center Dr. Suite 100 Vienna, Virginia 22182-2233 www.Reinforcedearth.com/products/fanwall.htm	Fanwall®	Mr. Sherif Aziz
Metal Barriers (Companies provide both absorptive and reflective)	Product Name	Contact Name
Empire Acoustical Systems 36744 Constitution Dr. Trinidad, CO 81082 719.846.2300 www.empireacoustical.com	SoundScreen® (VA. Series)	Mr. Keith McKeown
Industrial Acoustics Company, Inc. 11600 Commerce Avenue Bronx, NY 10462 718.430.4591 www.industrialacoustics.com	NoiShield®	Mr. Bob Buelow

List No. 65 (cont)

(65) APPROVED SOUND BARRIER SUPPLIERS – (Amy Costello)

Other Approved Materials	Product	Contact
Carsonite International (Plastic, Reflective) 1301 Hot Springs Rd. Carson City, Nevada 89706 800.648.7974 804.778.7775 www.carsonite.com	Carsonite®	
Permatile Concrete Products Co. (Concrete absorptive) P. O. Box 2049 100 Beacon Rd. Bristol, Virginia 800.531.6384 www.permatile.com	Permatile/Evergreen®	Mr. Fred Chase
Cyro Industries (Clear Acrylic, Reflective) 100 Enterprise Dr. P. O. Box 5055 Rockaway, NJ 07866-5055 800.531.6384 www.cyro.com	Paraglas®	Mr. Steve Barratt
Sound Fighter System (Plastic, Absorptive) P. O. Box 6075 Shreveport, Louisiana 71136-6075 318.861.6640 www.soundfighter.com	LSE Noise Barrier Wall System	Mr. Patrick Harrison
Listing compiled by Stephen Frazier on August 5, 2004. For corrections please contact at 804.371.6763 or by email at steve.frazier@vdot.Virginia.gov .		